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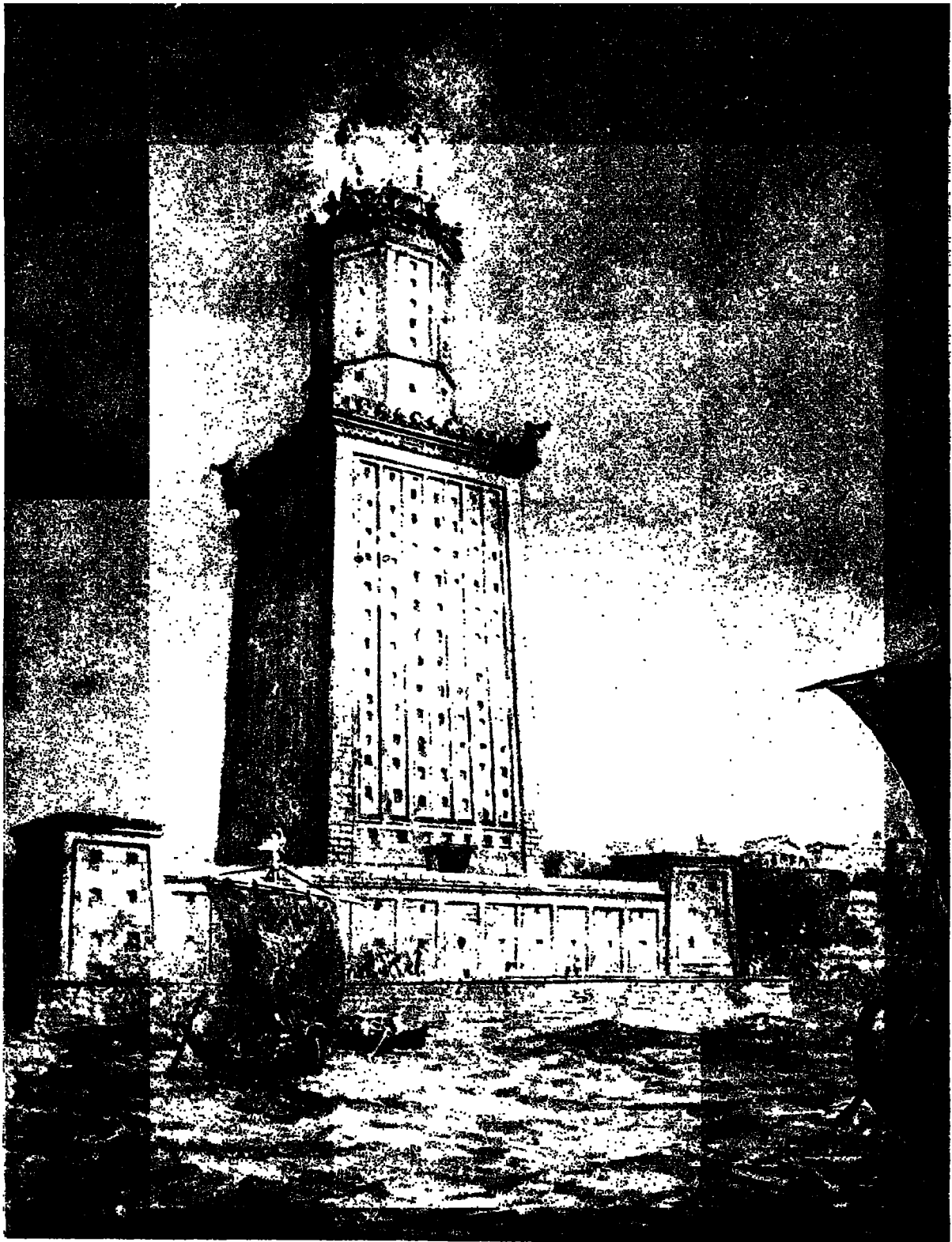
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WONDERS OF THE PAST



BEACON OF THE MEDITERRANEAN: THE PHAROS OF ALEXANDRIA

What the famous Pharos of Alexandria was like we gather only from descriptions by early travellers and reconstructions by archaeologists, upon which the above picture and that on page 829 are based. One of the Seven Wonders, it was a structure of singular beauty and utility. Built by Sostratus of Cnidus, at the command of Ptolemy Philadelphus, its height is estimated to have been between 350 feet and 600 feet while its light is said to have been visible 27 miles out at sea.

Specially painted for "Wonders of the Past" after a reconstruction by P. Thiersch

WONDERS OF THE PAST

**A World-Wide Survey of the Marvellous
Works of Man in Ancient Times Written by
the Leading Modern Authorities and Edited by**

Sir J. A. HAMMERTON

**With upwards of 1450 photographic illustrations
many maps and 45 plates in color**

New Edition in Two Volumes



★ ★

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WONDERS OF THE PAST

The Study of the Past. XIV.

The Wonder Workers of Antiquity

By W. Romaine Paterson. M.A.

A STRANGE and sinister fact meets us in the early history of architecture. Under the foundations of the great public buildings and temples of antiquity human beings, as well as animals, were buried alive as a peace offering to the gods. And there is reason to suspect that this form of propitiation was practised even in the case of Christian churches. It was an ancient belief that only by such a sacrifice could the stability of the structure be secured. On numerous widely separated sites human skeletons have been discovered under the foundation stones, and their presence there can have only one explanation. When the superstition decayed the human victims were replaced by images of men in the belief that such images, by sympathetic magic, might play the same salutary role.

In our study of these and similar crude imaginings we ought to remember that to early man it seemed an impious and audacious act to raise any edifice at all. For when the lightning struck it, or the wind or earthquake shattered it, such portents were regarded as the signal of the vengeance of supernatural beings. Man, who had lived like the beasts of the forest under the shelter of trees, or in holes in the ground, or in caves, challenged the powers of earth and air when he erected even the humblest dwelling. The gods, therefore, required to be appeased, and human blood was the sacrifice. To-day the builder's ritual consists in placing merely a few coins and newspapers of the realm under foundation stones, and this harmless transformation of a prehistoric barbarous building rite may help to remind us of the age-long process of the human struggle outwards from the entanglements of fierce and irrational creeds and superstitions.

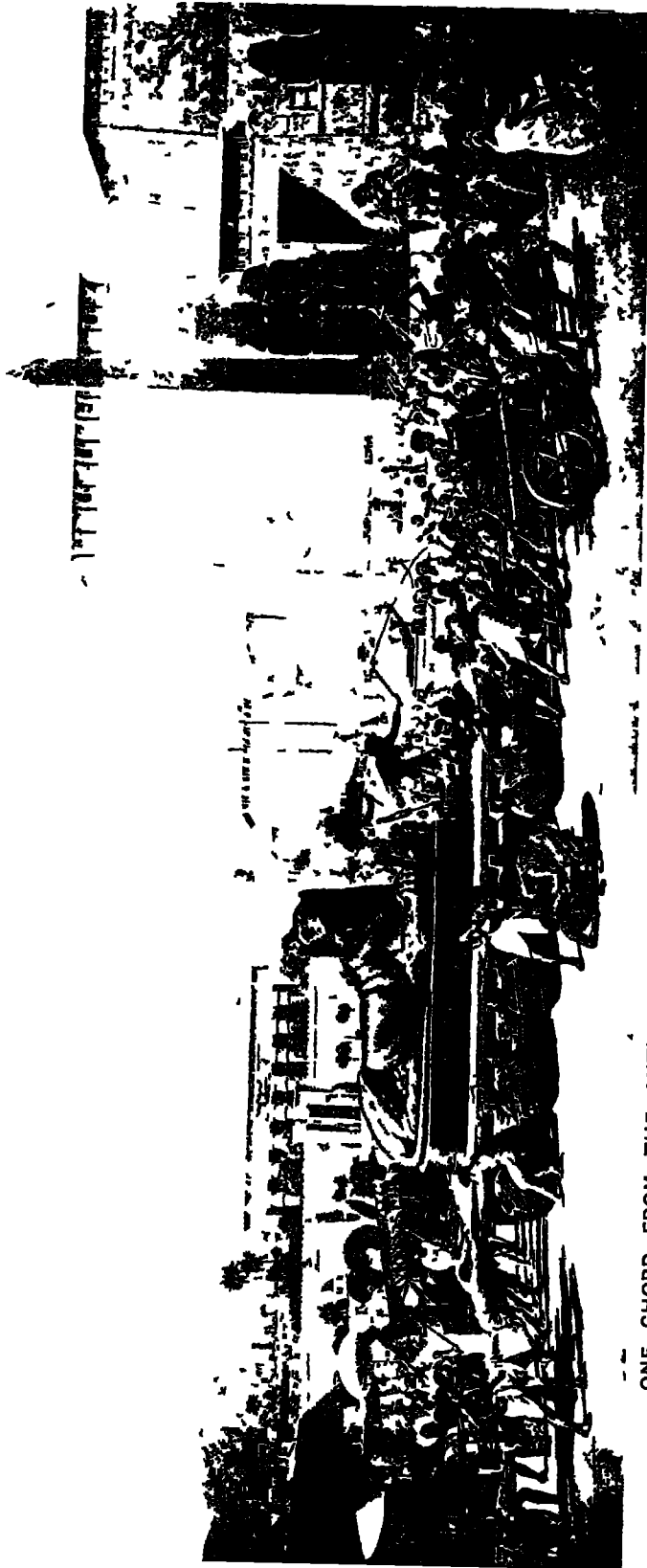
But if the foundations of the great structures of the past were actually buried in human blood, the buildings themselves were, and still are, monuments of a vaster and more massive sacrifice. The amphitheatres, circuses, and mausoleums, the mastabas and pyramids, the arches and aqueducts, the bridges and the paved roads, and all the temples of all the gods were built by means

of slave labour. In some of the pyramids the stones weigh more than fifty tons each. How were they placed in position? Some of the obelisks of ancient Egypt, still standing, are over a hundred feet high. How were they hewn from the rock, and how were such immense monoliths handled? On the prehistoric acropolis of Tiryns the walls are sometimes forty feet in thickness, and are composed of enormous hammer-dressed blocks.

Elemental human labour lies behind these things. We admire the skilled carving of Babylonian gems or the finesse of early Aegean art and craftsmanship, the gold cups and breastplates, the gold masks for the faces of the dead, the faience, the wrought ivory and the mosaics. But, after all, these are only the trinkets of antiquity. Far more impressive is the constructional effort, unaided, as it was, by the elaborate mechanical equipment of modern industry, which reared structures of cyclopean strength whose walls are still standing in defiance of time. Behind the genius of architect, sculptor, and engineer lay the rude labour of manipulation by generations of wageless men.

The ramparts of every fighting city, the walls of Babylon and Nineveh, and the massed monuments of Egyptian Thebes, the Palace of Cnossus, and the Palace of Khorsabad, the Parthenon and the Pantheon, the Colosseum, and the great Roman Baths were built because millions of workmen, without an indenture, were compelled to build them. What was the system of transport? What mechanical means were employed for the movement of material, the vast blocks of stone or marble or granite, diorite, and basalt? Before the long bronze saws, the hammers and chisels and drills of the masons and stone-cutters could be set to work, the blocks were first won from the quarries, accumulated and transported. There were no steam or electric cranes to raise within a few minutes to the required level tons of stone and brick; no steamships to bring the material of the architects down rivers or across the sea.

There was no dynamite for blasting the rock. Human energy was the only dynamite, and the machinery of the ancient world was living



ONE CHORD FROM THE ANTHEM OF MISERY RAISED BY THE SLAVES THROUGH ALL THE AGES

A contemporary Egyptian idea of the labour involved in transporting a colossus is shown in page 64. This illustration is reproduced from a painting of a similar scene by Sir David Roberts, entitled 'Israel in Egypt'. Gangs of those whip-driven slaves whose sweat and whose blood flowed to pile up the great monuments of the past are dragged into position a stone lion, for which the design has been taken from the Lion of Tutankhamen, found at Gizeh. The ropes strain, overseers ply their whips, and a high official with his little son, watches from his litter. In the foreground a slave who has succumbed is being revived, but an overseer has obviously been trying more drastic methods of resuscitation. In this connexion it is worth recalling that the artist lengthened his picture when it is pointed out to him that there were not sufficient slaves to drag so great a mass

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machinery. Gangs of slaves were harnessed to the great stones, and drew them slowly up the inclined plane which was gradually lengthened, like a kind of extension ladder, towards the platforms as the building grew higher and higher. There were no traction engines or steam road rollers, and a single motor lorry to-day can accomplish transport within a few hours which five hundred slaves could not have accomplished in as many weeks or months. The civilized world has been long acquainted with a unit of traction or propulsion called 'horse-power,' and it is in terms of horse-power that we still reckon an engine's capacity for work. It is true that primitive peoples utilized the ox and the ass and, although much later, the horse as draught animals. But as their civilizations became more and more consolidated the chief unit of energy was the slave.

Now let us contrast, as briefly as possible, the great structures of imperial cities like Babylon, Thebes, Athens, and Rome with the humble building activities of primitive tribes. One of the main characteristics which distinguish man from the animals is that he is a maker and transmitter of tools. Bird and beaver and anthropoid ape are, indeed, builders, too, but they have, as implements, only what

nature has given to them, teeth and feet, beak, claws, and hands. On the contrary, man was early at work with some kind of tool, and the oldest human sites have delivered up not merely his war weapons, but the weapons with which he carried on a war with nature. Probably the most important of all his implements was the stone axe with which he felled the trees that gave him material for his first rude huts and boats. It is strange to think that before he could work as a carpenter he was compelled at first to work with stone. It was not an axe of steel, it was an axe of stone, often with a stag's horn as a handle, which made clearings in the primeval forest, and laid the trail of civilization.

Thousands of years before what has been named the "Minoan" culture flourished in Crete, the islanders were using all sorts of instruments made of stone. Excavations carried out by Sir Arthur Evans on the site of the great Palace of Knossos, which covered six acres (see pp. 51-63), revealed the remains of Neolithic or Later Stone Age culture, which reach back 13,000 or 14,000 years. But in Africa and Asia, as well as in Europe, flint implements of the same kind have been discovered in various stages of development, from the rough stone held in the hand without a handle, and used for breaking or bruising, to the chipped and flaked flints used as sharp chisels or arrow heads or spear heads. Man's real constructive effort, however, could not begin until he had ceased to wander in search of a precarious livelihood. The word "to build" has been traced to a Sanskrit equivalent *bhu*, which means *to be* in the sense of something steady and fixed. In other words, the industries became possible only when a site for human habitations had been chosen.

And since the first sites were often in un-irrigated land, many of the earliest dwellings were built on piles. Moreover, for reasons of safety and as a precaution against the attacks of wild beasts as well as the attacks of hostile tribes, whole villages, known as lake dwellings, were constructed in the water. In the lakes of Africa as well as of Switzerland, in Bornco and in the Pacific islands, on the Amazon and on the Po, houses of the same kind erected on piles have been discovered, together with typical implements of the Early Stone Age, the Late Stone Age, and the Age of Bronze and Copper. But such dwellings were elaborate and even sumptuous compared with those of a less advanced stage of civilization.

Even as late as the second century before our era, numerous European tribes were still nomadic or semi-nomadic, and lived in wagons. Others lived in dug-outs in which the entire family and its cattle took refuge. The human inmates

descended by a ladder or climbing pole, while the cattle entered through lateral shafts. When huts were built they were usually of circular shape, and the door was in the roof. Here, again, we see a precaution against enemies, animal and human. There were no windows. The occupants entered their houses by means of a ladder, which was pulled up after them. And this oldest form of house appears in Babylonia as well as in Europe. A story in the *Vendidad*, the Leviticus of the Persians, enables us to understand the frail, tent-like character of early human habitations. A Persian died at some distance from his house, and the question arose whether the corpse should be carried to the house or the house to the corpse.

Let us now ask what had happened in the human world between the era when mankind were dwelling isolated in their "funnel pits" or crouching for shelter behind a mere wind screen of branches or palm-leaves, and the era when vast populations were congregated within the walls of planned cities like Babylon, Nineveh, and Persepolis. Millenniums separated the rude efforts of primitive builders from the great achievements of Babylonian, Assyrian, Persian, Egyptian, and Aegean architects. And yet the advance in the technical equipment of building was extremely slow. Stone tools were still being used long after prehistoric times, although such tools were supplemented in Asia and Africa by certain implements of copper and bronze. Iron came only late, and was at first so precious that it was worn as an ornament. Nevertheless, immense structures like the Pyramids of Egypt and the Babylonian and Assyrian palaces were raised. Instead of clay cabin or fragile hut, it had become possible to build at Persepolis splendid edifices, some of whose great blocks of marble are still standing on "the throne of Jamshyd."

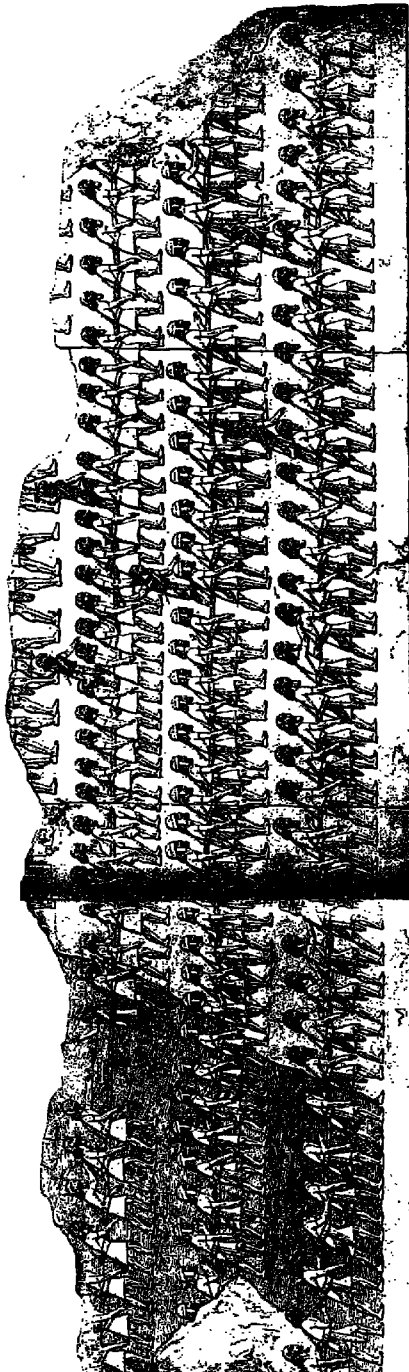
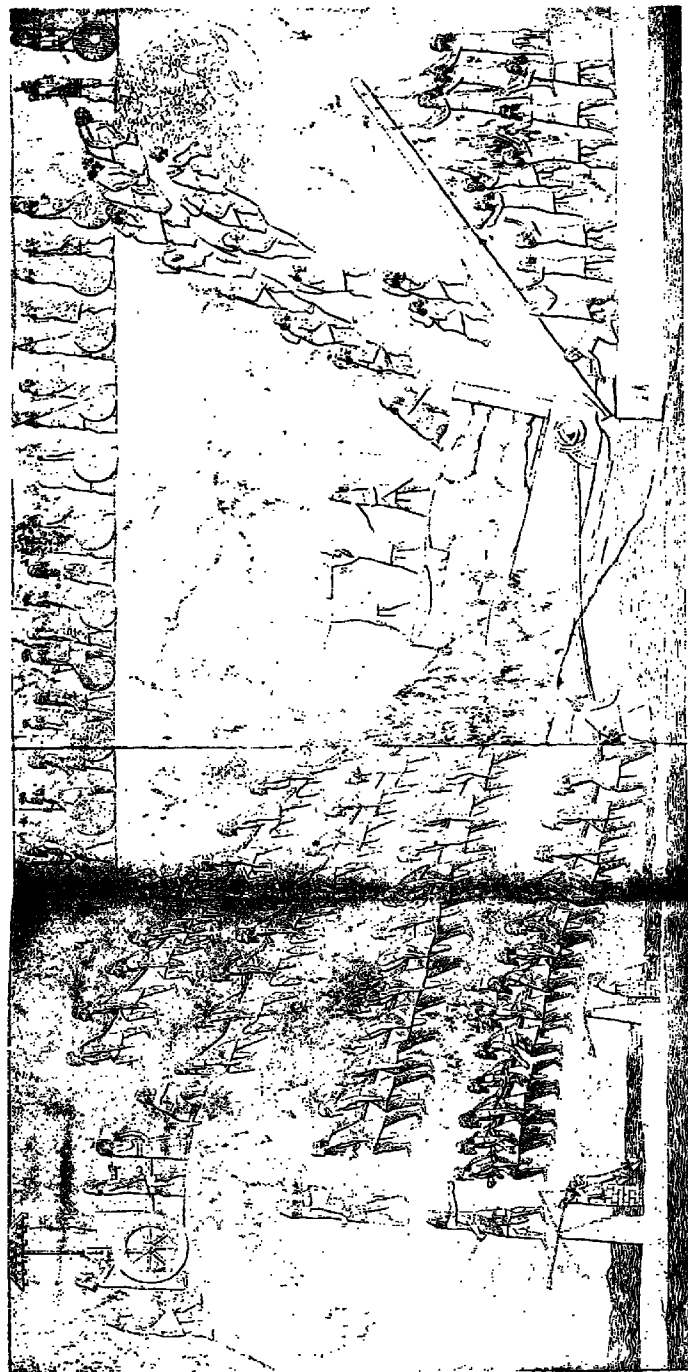
Later, there arose in Rome, as a proof of imperial extravagance, the Golden House of Nero, with its endless gardens, to defray the cost of which Italy and all the provinces were taxed. Instead, too, of the first rude idol set up in the wind and rain it had become possible to raise the colossal temples of Thebes, linked by avenues of sphinxes and dominated on both sides of the Nile by the great obelisks with their tops sheathed in bright metal to catch the rays of the rising and the setting sun. We shall take a random glance at a few of the remains of antiquity in order to point out the connexion between such public monuments and the social conditions out of which they arose.

It is possible that early writers, like Herodotus (484-425 B.C.), may have exaggerated the dimensions of the walls of Babylon (see pp. 365-378), but of their immense height and width no excavator has

any doubt. So wide were they that a four-horse chariot could be turned upon them. Their fortified towers, of which the number is supposed to have been 250, dominated the district. The circuit of the walls enclosed an area of some 200 square miles, and their hundred gates were all made of bronze. The Euphrates flowed through the city, its banks were busy quays between which there was a constant service of ferry boats, and a great draw-bridge linked both sides of the river. The streets, planned mathematically like the boulevards of Paris, the great Temple of Bel-Marduk, with its image, altar, and mercy seat of solid gold, the world-famous Hanging Gardens supported by arches and forming an immense elevated square, the hydraulic pumps which fed the tropical plants with water from the Euphrates, the observatories and the libraries filled with astronomical, astrological, and theological records, the raised Processional Way, the crowds of foreign merchants and pilgrims who came annually to visit the great city of religion and fashion—all this dazzled the imagination of the ancient world and caused Isaiah to describe Babylon as "the glory of kingdoms."

If we pass to her daughter Nineveh, set beside the Tigris, we shall find likewise the vestiges of a sumptuous civilization. In the fourth century B.C. its walls, although partially destroyed and in ruins, were, nevertheless, at some points 150 feet high. Sennacherib (705 B.C.) renovated Nineveh in the same spirit of magnificence which later urged Nebuchadnezzar (605 B.C.) to renovate Babylon. For instance, the wonderful bas-reliefs in the British Museum prove the existence at Nineveh of a great school of sculpture, and the clay tablets from the Library of Assurbanipal, or Ashurbanipal (668 B.C.), prove that the city was also a centre of literature and learning, although its culture had a Babylonian origin. Excavations on the site of the Palace of Sargon II., King of Assyria (722 B.C.), have revealed a building which covered an area of nearly a million square feet. The two winged bulls, now in the British Museum, guarded the principal entrance. It has been estimated that Sargon's palace must have contained some 700 rooms, many of them richly decorated in bas-relief. The hall alone was 150 feet long.

But this delight in vastness is characteristic of the architecture of the ancients. At Persopolis the Hall of Xerxes appears to have covered an area of more than 100,000 square feet, and its columns were 65 feet high, while in another Persian palace the roof was supported by one hundred pillars. Or, let us consider for a moment the Great Pyramid erected for his own tomb by a king of Egypt, Khufu (Cheops), in a still remoter age. It is about 150 feet higher than S. Paul's Cathedral, and its site comprises thirteen acres. Herodotus, during his stay in Egypt, listened attentively to



THE PRIDE OF NINEVEH'S MONUMENTS—
If we turn from Egypt to Assyria the records tell us the same tale of grandeur. The ruins of Nineveh were found at Koyunjik, and are at present in the British Museum. But the workmen—that is, prisoners or slaves—are towing a barge along the Tigris under the supervision of the inevitable overseers; top, further on, are dragging one of the great human-headed bulls up an

—RESTED ON STRAINING LIMBS AND CRACKING MUSCLES

artificial mound. Of the four officers who stand on the bull itself, giving directions, one is making use of an instrument which may be a megaphone or a trumpet, and as King Sennacherib himself is watching the scene from his chariot on the top of the mound it is doubtless his great palace which is being constructed by his hard-driven subjects. The bull has just been transferred to the barge to the bank by means of an enormous lever, for it is being raised to a higher level for one of the numerous canals by means of the interest to avoid "shallow" Mesopotamians was far better irrigated than now, and for this, too, slave-labour was essential. All universal "shallow" Mesopotamians was far better irrigated than now, and for this, too, slave-labour was essential.

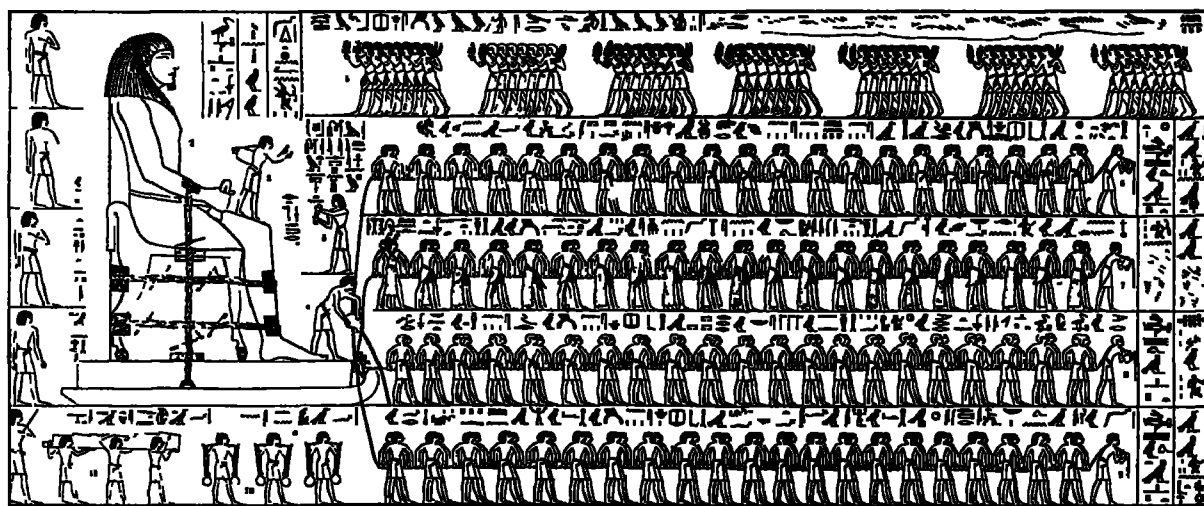
From Sargent's "Monuments of Nineveh"

the tradition which had gathered round the building of this gigantic monument. He informs us that hundreds of thousands of slaves were employed in the work, that ten years were required to make the road from the quarries to the site and twenty years for the construction of the pyramid. Lastly, in order to emphasise the vast scale on which ancient structures were designed, let us remind ourselves that the Colosseum at Rome accommodated at least 50,000 spectators.

In this brief sketch we have tried to catch only a glimpse of man's progress as a builder. At first shelterless, he searched for a mere roof to cover him from the storm. During thousands of years he was content with the frailest structures. Then he continued to add to his tool-chest, and

building operations. We see, for example, one of the colossal winged bulls which flanked the entrance of an Assyrian palace being moved from the quarry to the point of emplacement. Gangs of slaves, superintended by slave drivers, with their slave whips, are towing the flat-bottomed boat with its freight along the river tow-path, towards the unloading quay, where, by means of levers and hawsers and an inclined plane, they raise the immense block to its destined site.

Similar scenes were enacted during thousands of years throughout the area of ancient civilization. In his pride, Sennacherib boasts in one of his inscriptions, "According to my heart's desire I built a palace of alabaster and cedar." But in all such undertakings countless thousands of



WHOLE ARMIES OF MEN FOR THE SERVICE OF A GRAVEN IMAGE

This wall-painting, from a grotto at El Bersheh, for all its quaint lack of perspective, characteristic of Egyptian art, gives a vivid picture of the man-power which the Egyptians threw into the erecting of their monuments. A colossus is being transported from the quarries; four rows of forty-three men each are dragging it, soldiers guard it, workmen bear tools, a man stands on the sled and pours oil before it, and finally an overseer stands on the knees of the statue and gives the "chanty," clapping his hands in time.

From "Ancient Egypt," by Wilkinson

was at length able to erect immense and durable buildings. But it was by means of collective labour that he achieved these results. Families had fused into tribes, and tribes into nations, and nations had acquired territory and wealth. There are only three ways in which labour can be organized: (1) by compulsion, (2) by contract; and (3) by association. In the first case we have the great slave system of the past, in the second the modern institution of hired labour, in the third the communist plan.

In antiquity, there no doubt existed a small minority of free artisans, but the great working-class who carried out the vast building schemes to which we have referred were owned as slaves by the state. In the series of sculptured slabs from Nineveh we are provided with a realistic picture of ancient methods of transport of material and of

slaves were used up, and in order to fill their places and to obtain new captives fresh wars were waged. When, therefore, we look at the remains of the great structures of antiquity it is well to remember those dim, anonymous, wageless generations by whose massed labour they were raised.

Moreover, since servile labour was employed in all the subsidiary trades and occupations—among the potters, the weavers, the dyers, the goldsmiths, the stone carvers, sculptors, and painters, in the silver mines of Attica, the copper mines of Cyprus and Sinai, the iron, salt, and sulphur mines of Persia, in Caucasian naphtha pits and the ruby mines of Bactria, in the marble quarries of Greece, and the brickfields of Babylon, in short, in all the arts and crafts that lie behind civilization—we shall not hesitate to consider the slaves as the real Wonder Workers of the Past.

The Wonder Cities. XV.

Carthage, the Cruel Queen of the Seas

By the Editor

With photographs by Cr  t  , Paris, and a restoration by M. Paul Aucler

THERE can hardly be a more striking lesson in the vanity of human wishes than is afforded by a visit to Carthage in the twenty-first century after Scipio the Younger had carried out the behest of the Roman Senate and utterly destroyed the Phoenician city which, even then, after suffering two long and disastrous wars with Rome, was still the richest of all the world's communities, and held nearly one million inhabitants.

Carthage! What visions of opulent pride, of thronging streets and bustling quays! What suggestions of despotic power, of pagan abominations, the mere name can raise in the mind of any one who has at least a nodding acquaintance with history! The Roman Carthage that rose over the ashes of the destroyed Phoenician metropolis became in its day also a wonder city of commerce and of art, probably no less magnificent than its Punic predecessor, though it is to the life of the latter that the mind will most recur at mention of the name.

To-day you can take an electric train from the Avenue Jules Ferry in Tunis and, cutting straight across the shallower water of the lagoon upon an embankment built within recent years, arrive in about half an hour at the seaside suburb of Carthage, where many of the officials of the new Roman Empire which France has established in North Africa have their pleasant little villas. It is indeed an odd sight, when steaming through the Lake of Tunis towards the narrow channel at Goletta, to note the crowded cars of residents returning to their homes at Carthage after the day's round in busy Tunis, which is not one-fourth the size of ancient Carthage.

When you first come

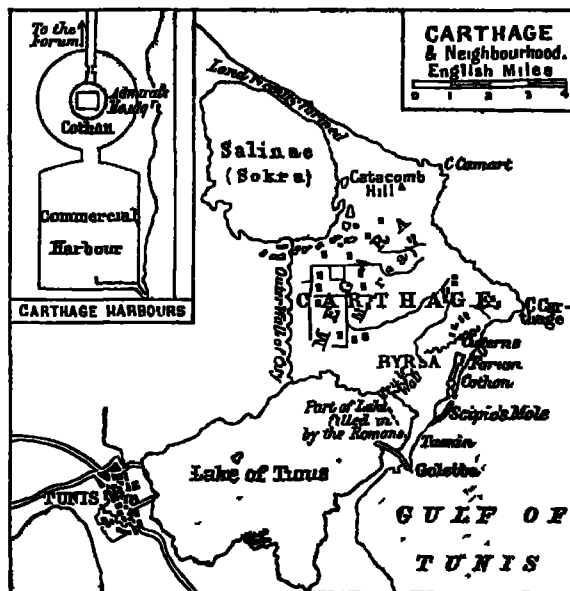
to this seat of vanished empire and stand upon the Byrsa hill, where once was the mighty citadel and the splendid temple to Esmun, you might be moved to mirth, as was Herbert Spencer on observing a man bathing in the sea. To know that this naked creature had conquered the world was a laughable thought to the philosopher, and to believe that this agreeable little jumble of white seaside villas, set in green gardens by the shining waters of the gulf, was once the gorgeous city of Carthage, that the circular pond and the square one beyond it were once its far-famed naval and mercantile harbours, is no less food for mirth—and melancholy.

Despite generations of excavation, so little has been recovered from the site of Carthage that it might all be contained within one museum of no immoderate dimension. The remains that are definitely of the pre-Roman Carthage would make a few truck-loads only. The destroyer did his work well, and in later years the city became the quarry from which modern Tunis was built, even many of its marble columns and plinths being taken across the sea to decorate the villas of Southern Italy.

Since there is so little of material Carthage that

the eye can rest upon, we must turn to the historians to rebuild in some sort the wonder city whose "great sinful streets" ran down there where those little gardens smile, and up here to the Byrsa, where are many little excavations, bits of cornfield, the handsome modern cathedral built by Cardinal Lavig  rie, the museum named after him, and also the chapel to St Louis of France, who died here during the Seventh Crusade in 1270.

When a breeding moth is caught and pinned, she will often pour out



From the archaeological restoration by M. Puel Anstett

A GLIMPSE OF THE GREAT CITY OF CARTHAGE AT THE-
There is little doubt that the above striking picture (a key to which appears on page 636) offers a faithful impression of the most important part, though a small section only, of the wonder city of the Phoenicians as it appeared up to the time of the third and final Punic War, when, in 146 B.C., the Romans destroyed it utterly. It should be noted that the architecture displays no remarkable national characteristics, such as that of Babylon or of Thebes, being a mingling of various styles. The Ionic columns of the great circular

her store of eggs in her death agony. Carthage was one of the eggs of empire laid by the small Semitic race of Phoenicians of Syria, when their little strip of busy coastland was pinned between the opposing fleets and armies of Greeks, Philistines, and Egyptians. Scores of colonising expeditions rowed away from Sidon and Tyre, and settled along the mainland and islands of the quiet, western waters of the Mediterranean. The founders of Carthage were among the latest comers, arriving from Tyre about the time

when the fall of Troy gave the Greeks, already masters of the Eastern Mediterranean, the control of the Black Sea traffic. Every period of Assyrian, Persian, and Greek pressure on the little Phoenician motherland, down to the time of Alexander the Great, destroyer of Tyre, strengthened the western colonies.

Carthage quickly rose to power by reason of the keen judgement of the military and naval value of her position that the business-like Semites displayed. They selected a promontory of red rock

-HEIGHT OF ITS NAVAL POWER AND COMMERCIAL SPLENDOR

naval harbour, which dominates the scene, would probably be like the whole structure of the work of Greek architects men of Karthadisha, or "New City," from which the Europeanised names of Carthodon and Carthage are derived, had to fight and struggle hard against their own kinsmen. From the modern point of view the position resembled a contest between half a dozen corporations of the same nationality crowding into a rich, new territory. There was no thought of amalgamation. So intense was the spirit of competition that, ages after the

at the bottom of the bay of old Tunis, where Africa stretches forth two rocky arms towards Sicily. On the northern side were impassable sea-marshes. On the southern side was the great lagoon of Tunis, forming a magnificent natural harbour. Landward was an isthmus, only three miles broad, to be defended against hostile forces. On a low hill, by the almost land-locked lake harbour, the traders built and fortified their factory, and soon established commercial relations with the fair-haired Berber horsemen of Numidia.

(With the permission of the publisher, M. Ch. Delagrave, Paris)

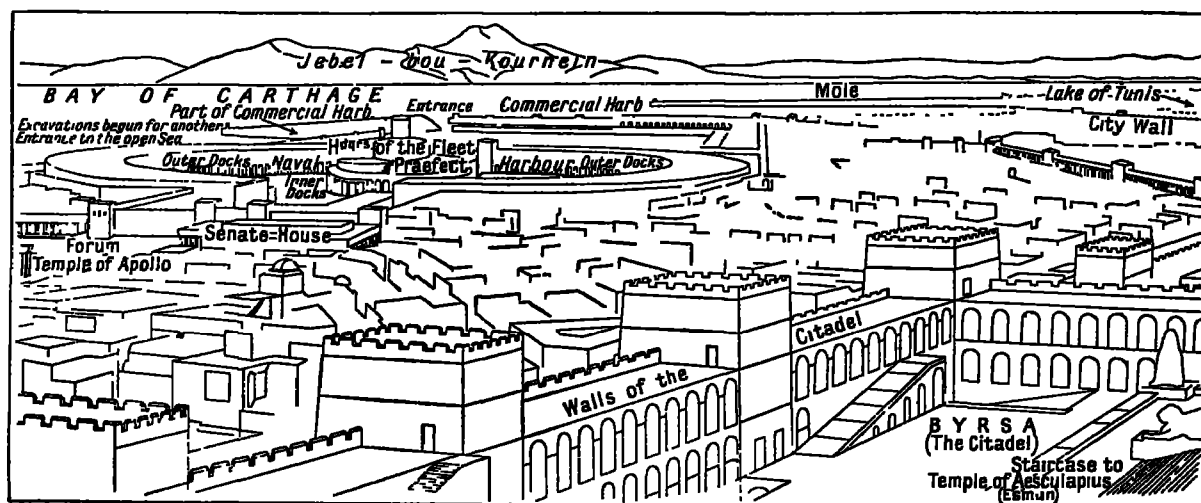
Carthaginians rose supreme in war and trade above their neighbouring fellow-countrymen, any strong invading foreign army was certain of the support of the "Old City," Utica, originally colonised from Sidon and lying in a weak position northward of the "New City."

But after overcoming the older settlements, in trade, shipping and warfare, the men of Carthage were hardened and tempered into an imperial race. Profiting by the Greek pressure upon the Sidonian and Tyrian merchant seamen, they took over the Sicilian and other settlements of the mother cities, and by continuous intrigues and desultory skirmishes with the onward-moving Greeks, they revived the old, declining island trading-stations.

of property insurance. Then it was that the trading city assumed the majestic appearance that ancient historians and modern excavators have combined so successfully to depict.

The central part of Carthage was the low, walled hill, known as Bosra, or the fort, but called by the Greeks Byrsa. It grew into the sacred, magnificent citadel of the city. On the mainland side it was strengthened by three remarkable ramparts, stretching across the breadth of the peninsula, as far as the northern sea-marshes.

The outermost wall was about seven feet thick, forty-five feet high, and flanked at equal distances of two hundred feet by high towers. Behind it were two similar walls. The extraordinary feature was



KEY TO THE ARCHÆOLOGICAL RESTORATION OF CARTHAGE

Based upon the very clear description left by the Roman historian, Appian, the restoration of Carthage by M. Aucler on pages 636 and 637 may be regarded as archaeologically sound and in harmony with the results of latest excavations. Lacking exact details of the exterior appearance of the temples of Baal (Apollo) Tanit (Astarte or Aphrodite) and Esmun (Æsculapius), the artist has ingeniously chosen his field of view so that none of these, nor the Forum, would call for definition.

By permission of the Publisher, M. Ch. Delagrave, Paris

In the plain, downright European fashion of forcing a decision, the Greeks offered pitched battles for Sicily, and often won their battles, but they did not win the island. Finally, under Agathocles of Syracuse, the leading Greek colonists threw an army into Africa, ravaged the Carthaginian land for three years, and returned with huge booty.

The Greeks, however, remained adventurers, while the Semites of Carthage continued to act as keen, watchful, patient, and industrious business men. They disliked war, and therefore wished for no empire. Especially did they fear their own victorious commanders. In fact, their aversion to imperial conquests was based on their dread of the rise of an emperor of their own stock. They did not care to expend money in fully fortifying their city until Agathocles showed them, in 312 B.C., that strong, systematic defences were the best form

that these triple defences formed one gigantic mass of vaulted masonry. In the underground part was built stabling, with fodder storehouses, for three hundred elephants. On the storey above were stables and provision lofts for four thousand horses, while barracks for four thousand cavalymen and twenty thousand infantrymen were attached. The connecting hill citadel, with its wide, castled walls, battlemented parapets, and ranges of arched recesses on the inner side above the large open courtyard, held a temple to the god of healing, Esmun (Æsculapius), under whose protection was gathered the vast store of military armaments.

Down from the citadel to the market-place ran three streets, skilfully designed as defensive approaches. The houses were six storeys high, each like a stronghold, and they so overhung the steep, ravine-like way that men with planks could

cross from side to side, and from roof to roof. By the market-place, built on the level shoreland and containing the temple of Baal (Apollo), was the stately Senate House, and behind was the wonder and mystery of Carthage—the secret of her naval supremacy and her last resource in peril. Secrecy was the master characteristic of this Semite Queen of the Mediterranean. Her enormous wealth rested on secret technical processes in manufactures, secret trading-stations in the outlands, from the Sudan to the Baltic, secret mines of useful and precious metals, secret overland and sea routes, secret details of pilotage and navigation, and secret armies. But above all in importance was the hidden instrument of her command of the sea—the navy.

colonnade that connected with the strong, high, outer wall and hid from view both the navy and the huge stores of constructional material ready for building new fleets. By means of trumpets, the officers of the High Admiral controlled the work of the dockyard hands, and directed, in time of war, preparations for action. Always, when Carthage was seen from the sea, she appeared to be without a guarding naval force.

Even for merchant ships of importance the great lagoon of Tunis was not used. From the Cothon a narrow channel ran southward into a mercantile harbour, 1,396 ft. long and 1,066 ft. wide. Here trading vessels unloaded into large warehouses and shipped cargoes for export, all goods remaining secure from raiders. The sea entrance was but



THE ANCIENT QUEEN OF THE MEDITERRANEAN AS THE TOURIST OF TO-DAY MAY SEE HER. It is interesting to compare this photograph of the site of Carthage with the fine restoration of the Phœnician city shown on pages 636 and 637, a key to which appears on page 638. The original site of the naval and commercial harbour, although greatly restricted by the silting of the land, is still, as this proves, easily distinguishable. From this circular pond the once mighty and all conquering naval power of the Carthaginians was wielded.

In the stretch of sand below the market-place and the Senate House slaves had been set to excavate a vast waterway, 1,066 ft. wide, running in cup-like shape round a circular island. It was called the drinking-cup, or Cothon. Upon the island was erected a palace-fortress for the High Admiral, with a platform tower from which he could watch all that happened on the circle of water beneath his gaze, and discern every movement of shipping on the outer sea approaches to the city. Round his circular naval harbour were separate docks for two hundred and twenty warships, extending in size to three-tier and five-tier rowing galleys, with great metal beaks for ramming enemy vessels. Fronting each dock were two Ionic columns, supporting the magnificent circular

70 ft broad, and could be quickly closed by chains. It was the only water-gate by which warships as well as trade ships could depart and return. A long, mighty sea-wall, extending along the city front by the edge of the tideless sea, prevented any direct storming attack by landing parties from a hostile fleet. On the promontory, where the sea-wall ended, was a lighthouse, and beyond, by the northern end of the peninsula, was a large sacred burial place, that was, long afterwards, to give the modern world glimpses of the workaday life of the secretive masters of the seas.

The way in which the water supply of the city was arranged was characteristic of Semite caution. In a hillside, about a quarter of a mile from the citadel, were eighteen vaulted, underground



SOUVENIRS OF PUNIC AND ROMAN CARTHAGE: BEAUTIFUL SCULPTURES RECOVERED FROM THE RUINS

Both of these are to be seen in the museum at Carthage, that on the left being the singularly charming cover for the sarcophagus of a Phoenician priestess. She is represented in a long tunic, the body, from the waist down, veiled with two freely-carved vulture's wings, while in the right hand she holds a pigeon, and in the left a sacrificial vessel. Egyptian and Greek influence appear in this sculpture, which still bears traces of the original paints with which it was coloured. On the right is a statue of Abundance, one of the pieces of Roman sculpture which the excavations have yielded, and typical of thousands which adorned the later Roman city.



A GLIMPSE OF THE "SMALLER CISTERNS" AS THEY APPEARED AFTER EXCAVATION

One of the moot points in the archaeology of Carthage is the origin of these cisterns, which can only be regarded as "small" by contrast with the series of still larger ones erected by the Romans on the opposite side of the Diva hill to receive the waters of the sixty miles aqueduct which they carried from Zaghouan beyond the Lake of Tunis. The cisterns here shown were most probably made by the Phoenicians for the storage of rainwater. Many of the dwelling houses were furnished with their own private cisterns.

reservoirs of cement, each about 100 ft long by 20 ft. wide, with 17 ft of collected rainwater. A narrow gallery, running through the hillside, allowed the inspectors to walk beneath the surface along the great cisterns. In the later Roman days, mountain torrents were brought into the streets by means of a great aqueduct, 60 miles long, parts of which are standing to-day outside Tunis.

Of temples and shrines, there was one of the richest collections in the world. The Carthaginians were business-like in religious matters as well as in mundane affairs. For them the keen, practical way to universal success was to gather the idols of all the powerful nations they encountered, and so envelop the city with alien as well as native spirit influences. Having been frequently worsted in battle by the Sicilian Greeks, they took in their own victories many of the finest pieces of sacred sculpture of the Hellenes, until their city became a living museum of Hellenic masterpieces. A few of their best men acquired a Greek temper of mind, but this was a dangerous quality. The mass of commoners and merchant princes remained, in spite of their subtle, practical intelligence, horribly attached to the old Canaanite worship of the sun-god, Baal, and the moon-goddess, Astarte.

According to tradition, Baal, the spirit of fire, was throned in the antique state temple, and brought out into the court of sacrifice in days when the city was in danger. Represented as a gigantic bull-headed man, with outstretched, apparently

friendly arms, he asked, so his powerful priesthood always held, for the most precious offerings from his people. Young boys of unblemished body, heirs of the noblest families, were brought to him and placed in his arms. The arms were fiery hot, from a fire kindled within the hollow bronze image, and from their sloping length each victim fell into a furnace, his screams being drowned by a tumult of instruments, and roaring chants from the priests, gashing themselves to bleed for Baal, and from the maddened crowd!

The temple of Astarte in Carthage, beautiful in structure, gorgeous in ornament, and gay with lovely girl devotees, was as debasing an element in the national life as was the awful shrine of Baal. The noblewoman of pure, gracious aspect who served as high priestess, and the dignified, handsome man of gentle birth who acted as high priest, were the directors of rites foul beyond description.

The goddess, who was better known in the city under the name of Tanit than under the primitive name, was gloriously chaste in her best figures—resembling a woman archangel, with long wings of gold, blue, and crimson, folding round her body and crossing above her bare, exquisite feet. As the female principle of fertility, she had noble aspects, such as the goddess of wedded love and good farming, but these were smothered in abominations, the general practice of which served but to poison the source of life.



GODS AND MEN OF ANCIENT CARTHAGE

The two seated figures in the top row represent Baal Haman, a blend of the original sun god and the African Ammon, known in Egypt as Amen Ra. In Carthage itself he ranked next to Tanit, but elsewhere in the Carthaginian world he was the supreme deity. Below are recumbent figures from Carthaginian sarcophagi: the one on the left is of a princely member of one of the Great Councils of Carthage. The terra cotta heads on the right are valuable indications of facial types and costumes.

From *Mus. Lavigerie* - E. Leroux Paris and Ferret et Giquet - *L'Art en Phénicie*

The old nobility lived outside the city on large estates worked by serf labour, and seldom engaged in trade. From them came most of the judges, whose office originally resembled that of the judges of early Israel. Elected in pairs, the judges still nominally ruled, but their real power had been taken by a House of twenty senators. In turn the senators had become stately shadows, representing the old landed nobility, and an assembly of one hundred and four leading merchants, actively working in the interests of the large business plutocracy, and known as "The Hundred," formed the real governing body.

Backing these new men to a considerable extent were the commoners. These had lost all direct political rights in exchange for a comfortable livelihood. "The Hundred" kept them contented, with abundant food and amusements, as the emperors of Rome kept their plebeians. For the more stirring spirits there were good commercial careers, and profitable positions in the navy and army, in which aliens had to be overseen, and marine and naval jobs.

The subtle, Semitic method of letting the living waste of war fall upon alien soldiery was advanced by the aid of skilful diplomacy.

The men of Carthage were clever! Hard,

yet flexible, stubborn, yet persuasive; superstitious, yet cold and logical, cautious by habit, splendidly adventurous by impulse, they were a strange mixture of good and evil qualities. They explored the Atlantic coast from the Equator to the icefields of the Arctic, they invented the scientific system of farming, and in seamanship were unequalled until the coming of the Vikings. The record of many of their achievements is lost with their literature, of which not an original fragment survived the destruction of their city.

The Carthaginians were unworthy of so great a man as Hannibal, who would have destroyed Rome at the outset of her imperial expansion had he been loyally supported by his fellow countrymen. But he was discouraged and hampered by them, for the great men of the state dreaded his victorious return as emperor of a Greater Carthage, with Rome as his vassal, and they so schemed that Hannibal, after all his amazing achievements in Italy, was in the end to be a fugitive from Carthage, and his beloved motherland little better than the vassal of Rome. The rich men of Carthage were well enough pleased to be left with their gorgeous homes and splendid estates and their still opulent city, but terrible and well deserved was the ultimate fate in store for them and for Carthage.



EXCAVATORS' "FIND" AMONG THE RUINS OF ROMAN CARTHAGE

The Roman cities of North Africa, more notably than those of Italy or any other part of the Empire, abounded in beautiful mosaic floors and pavements, and the commonest features of the museums to day are fragments of that charming decorative art. Here are being uncovered the remains of a fine pavement, dating back to the early days of the rebuilding of Carthage in the time of Augustus, the graceful designs in red, blue, gold, and green still retaining their pristine vividness.

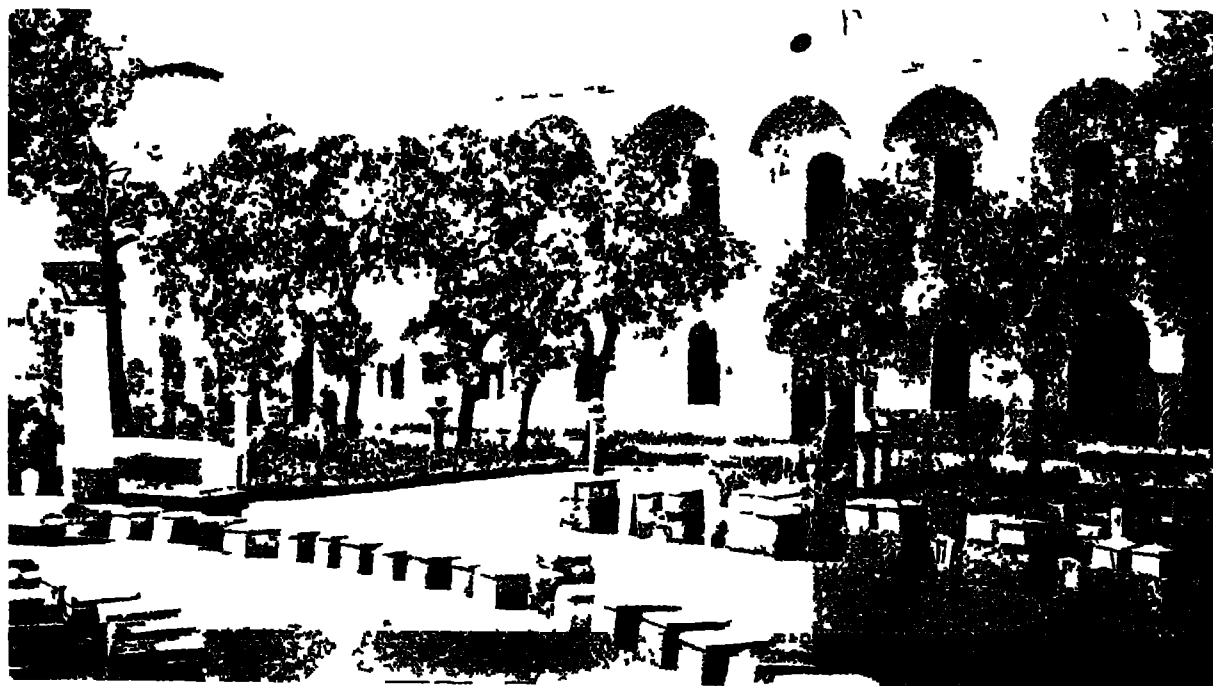
Breaking the treaty of submissive peace on a light pretext, the Romans landed again in Africa, and demanded that all weapons and machines of defence should be delivered. Humbly the Carthaginians obeyed. They were then told that their city was to be destroyed, but that they might build another town at a distance of ten miles from the coast. Even to these terms the plutocracy despairingly submitted. But not so the disarmed people. They killed the men who had counselled submission, murdered every Italian in the city, and broke the images of the gods that had forsaken them. Closing the gates, men and women worked day and night forging new weapons and building a fleet, while the Roman army waited until the apparently hopeless frenzy ceased.

When the troops approached, great was their surprise to find that the walls were manned and armed with new engines of war. A regular siege was undertaken and so severe were the Roman losses from sallies, ambushes and pestilence that for two years it seemed likely that Carthage, by her mad courage, would escape. But a young Roman general bearing the name of the Scipio family by whom he had been adopted, after another spell of failures, at last carried the mercantile and naval harbours. By six days of fighting, massacres, and burning in the narrow climbing streets, he reached the citadel which, after some

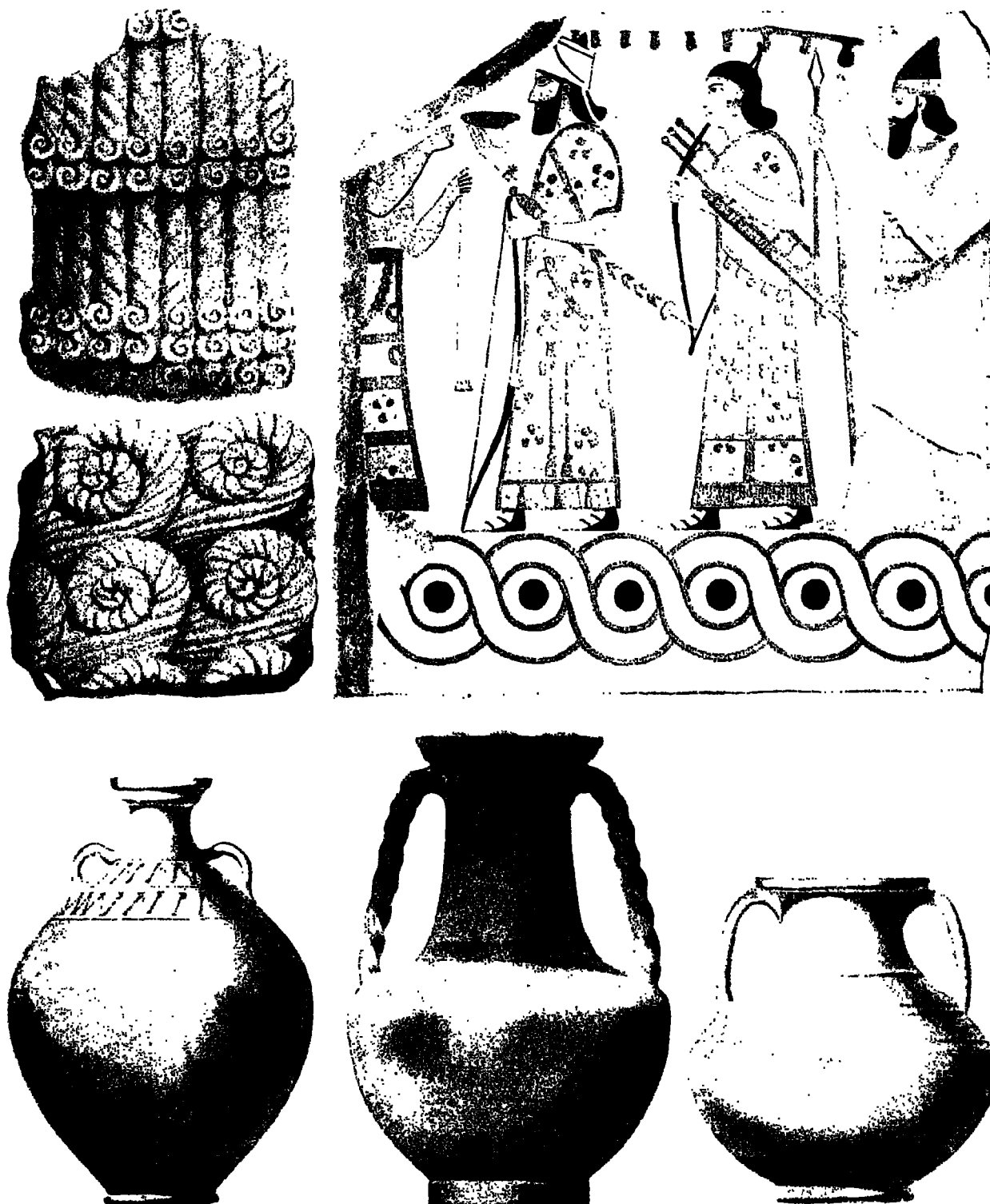
50,000 natives surrendered, was held to the death by nine hundred Roman deserters. The treasures of art were removed, and every building was levelled, and a plough driven over the ground. With few exceptions, the inhabitants surviving the butchery and burning were sold as slaves.

Such was the end of the historic city in the year 146 B.C. A new city was afterwards planned by Cæsar, and arose under Augustus as the capital of Northern Africa, and after serving as a centre of African Christianity, with St. Augustine, Tertullian and Cyprian eminent among its orthodox leaders, the old curse of party strife fell upon the new city, and so weakened it that the heretics assisted the Vandal invaders. When the Byzantine general Belisarius recovered it, the sectarians finally opened the way for the Saracen attack in A.D. 698, and the second Carthage went up in flames over the vanished ruins of the ancient rival of Rome.

As I stood in one of the excavations on the slope of the Byrsa and looked up from an ancient Phœnician tomb to the foundations of a Roman house that had been built above it, I reflected that the builders of the Roman house and those who came to live within it had probably no notion of what lay below them. Phœnician Carthage would be more dim and distant to them than it is to us to-day two thousand years afterward. What an instrument of history is the spade!



CINERARY URNS ARE THE COMMONEST FEATURE OF THE MUSEUM AT CARTHAGE TO-DAY
The visitor will probably be told a terrible story of the horrid practices of the Phœnicians in sacrificing their children to Baal, and these small stone caskets will be pointed out to him as the receptacles for the bones of the little victims. They are really evidence of the Roman custom of cremation, and have been recovered in immense numbers from the necropolis at Carthage, where, after the Phœnician remains had been removed, the Roman colonists deposited their own cinerary urns.



GLAZED WARE AND POTTERY FROM THE GOLDEN AGE OF ASSYRIA

In the bottom row are three glazed pots from tombs at Nimrud, of delicate form, but unambitious decoration—the potter's craft does not seem to have been held in such repute in Assyria as elsewhere. Above on the left are two fragments representing hair, both probably portions of the beard of a statue of a king or god, the upper being of clay and the lower of enamel. On the right is a portion of a painted brick, showing a king with a chalice, about to pour a libation after hunting, followed by an attendant bearing his quiver. All from Nimrud.

From Layard's "Monuments of Nineveh."

Ancient Arts and Crafts. VI.

The Arts in Babylonia and Assyria

By Lewis Spence, F.R.A.I.

Author of "Myths and Legends of Babylonia and Assyria"

A CONSIDERABLE amount of material for the study of Assyrian and Babylonian Art will also be found in the two chapters entitled "The Splendours of Nineveh and Khorsabad" and "Babylon the Great"; but in the following chapter Mr. Spence ably sums up the artistic genius of the whole race of whom those cities were the crown and the glory. In this connexion the article on "Ur, the City of the Flood" should also be mentioned, for it must be borne in mind that the Sumerians played the same part in the aesthetic history of the land as the "Myceneans" in the culture of Greece. Reference may also be made to the chapters on other Mesopotamian cities—Kish, Susa, etc.—EDITOR.

IT was formerly the fashion to regard early European artistic development as having received its only impetus from Egypt. But although it is abundantly clear that Nilotic art influenced every department of modern craftsmanship, the debt which European artists and artisans owe to their Chaldean forerunners is not so widely recognized as aesthetic justice demands.

Egyptian influence upon Babylonian - Assyrian art itself was comparatively late and indirect, finding its way into Mesopotamia through the agency of the Aramaeans of Palestine. By the time it appeared, indeed, Mesopotamian art had achieved that individuality and distinctiveness which is the outcome of prolonged racial effort within a given environment. To whatever period or school we turn in the artistic chronicles of Chaldea we never fail to discover in its productions the unmistakable evidences of aesthetic unity. But that it was not without its own influential abilities is shown by the sway it exercised over the early art of Greece. The frieze of the Parthenon is merely a more up-to-date Assyrian frieze, its prancing horses might have been stabled behind the palace of Ashurbanipal (Assurbanipal), or its low reliefs might

have been cut in the alabaster of Mosul. So it is with the lesser crafts of Europe. When Byzantium and Morocco flooded Europe with their artistic gifts, they gave not of their own, but out of the treasure-house of old Babylon, so that there is not one artistic process known to the modern world but derives in a measure from some Babylonian prototype.

The people of Babylon were artistically inclined, if heavily shackled by tradition. Only it is clear that they practised art not for art's sake, like the Greeks, but for the glorification of their gods and kings. Their effort, as a whole, was surpassed by that of Egypt, but in some departments, such as the bas-relief and the adaptation of artistic motifs to the products of industry, they seem to have outstripped their African contemporaries, and, if the sculpture of Mesopotamia cannot compare with that of Egypt in delicacy and dignity, it is by no means inferior to it in the qualities of fidelity and movement.

But the Chaldean sculptors were badly hampered by the sumptuary customs of their race, who, unlike the Greeks and Egyptians, considered it shameful to appear unclad. This custom probably had its origin in the capricious



PORTRAITURE ABOUT 2500 B.C.

Limestone figure of a Sumerian royal personage, or priestly official, who belonged to one of the non-Semitic families which reigned at Lagash about 2500 B.C. Similar statues have been recovered during the excavations at Ur

By permission of the Trustees of the British Museum

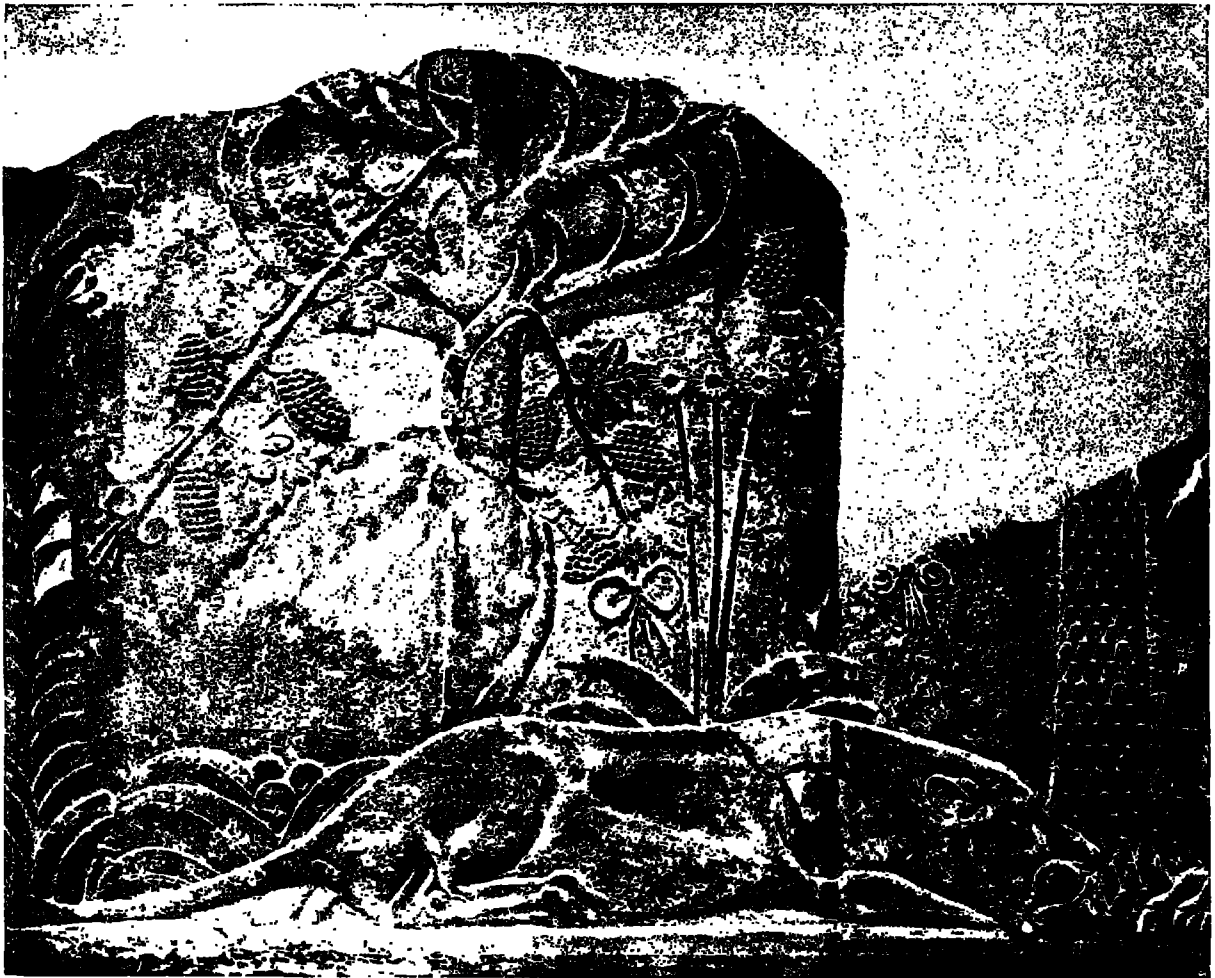
nature of local climatic conditions, in which a scorching sun was frequently accompanied by biting winds. The heavy and luxurious cloaks and mantles in which the Chaldeans wrapped themselves rendered a vogue of the nude in art impossible, and thus gave the sculptor no opportunity for the representation of that most noble of all subjects, the human form divine.

Thus cut off from that anatomical study of the human body which is the basis of artistic excellence, the Babylonian sculptor, like the schoolboy with slate and pencil, too often composed his figures as though they consisted of garments to which heads, arms, and legs had been fortuitously attached. The body is nearly always much too squat and disproportionate. The unclothed parts are exaggerated in their muscular development and hirsute

adornments. Kings and priests are depicted as of herculean mould, and the meticulous decoration of their beards must make the modern hairdresser grieve that he did not keep a booth in Nineveh.

But Chaldean, and especially Assyrian, sculpture had a documentary as well as an artistic side. The series of bas-reliefs with which the walls of the palaces were covered were chronicles as well as works of art. The sculptor illustrated the political events of his time. When he dealt with groups or processions he was capable of inspiring them with a certain rhythm and dignity, but his treatment of such themes sadly lacks variety, and has only too often the repetitive and monotonous appearance of a motif in stencil.

The medium in which he works invariably reacts upon the labours of the artist. In general the



VIRILE TREATMENT IN BAS-RELIEF OF A MUSCULAR LIONESSE

Assyrian sculptors were, generally speaking, far more successful in their treatment of animals than of human beings; and of all animals the lion, the quarry of kings, seems to have been their favourite. In this relief from the palace of Ashurbanipal, one of these noble beasts is shown amid park-like surroundings, indicated by a lily, a tree round which twines a grape-laden vine, a tuft of daisies or similar flowers, and the trunk of a palm. She (it is a lioness) crouches cat-like at her ease; her mate once faced her on the right.

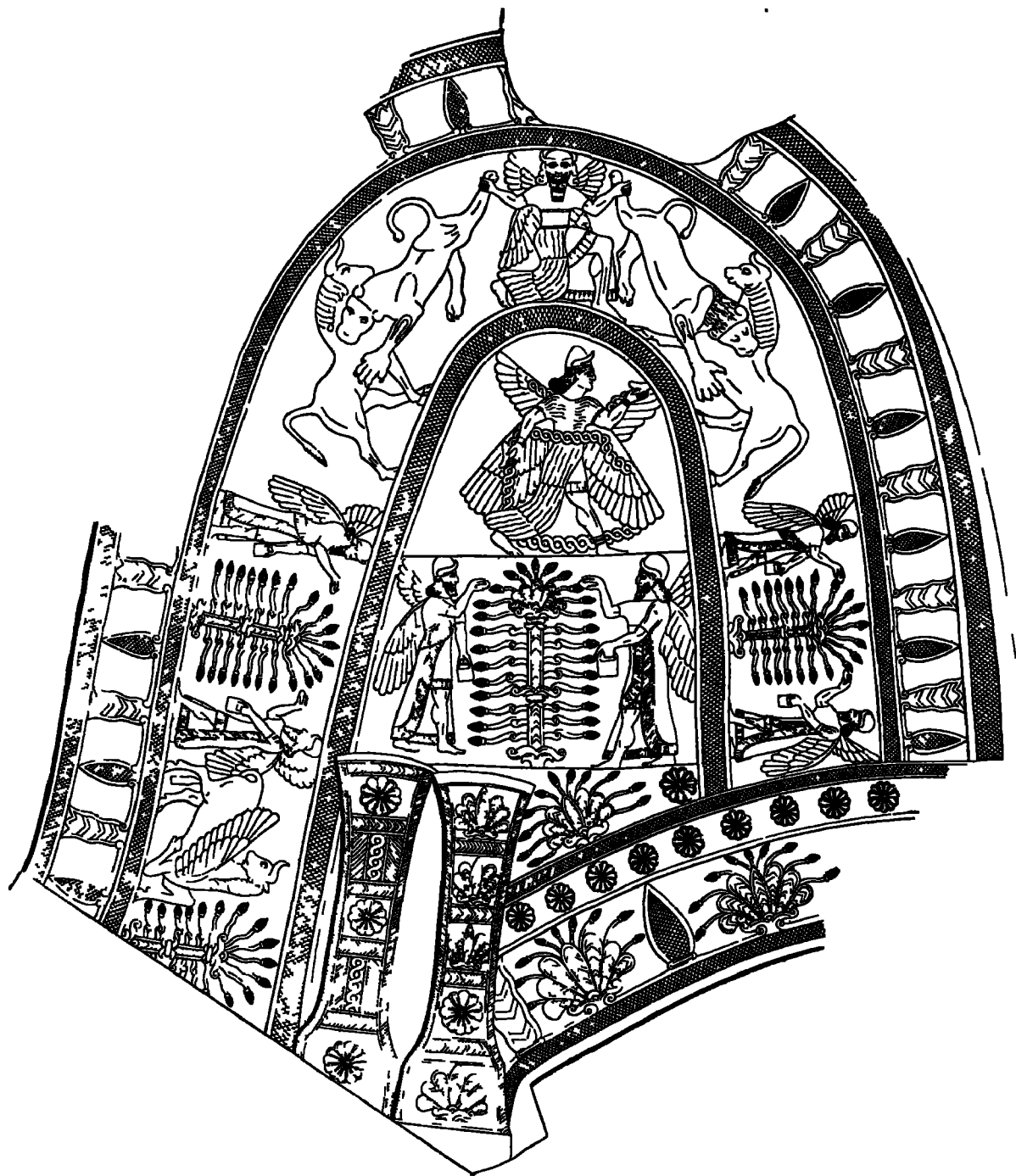
Photo by permission of the Trustees of the British Museum



EQUINE FLEETNESS AND LEONINE STRENGTH FIXED FOR EVER IN STONE

By the time of Ashurbanipal the hecatombs of himself and of his hunting ancestors seem so to have reduced the number of lions in the district that it was found necessary to fetch imported specimens from the south and keep them in cages awaiting the day of the hunt. The upper register of this slab from his reign depicts horsemen off with bow and arrow to the chase and the lower a lion being released from its timber cage by an attendant, who stands above protected (somewhat inadequately!) by a grille.

Photo by permission of the Trustees of the British Museum



SYMBOLIC EMBROIDERIES ON THE UPPER PART OF A KING'S ROBE

The elaborate decoration on the robes of kings shown in the bas reliefs appear to have been in the nature of embroideries on a woollen garment rather than chasings on a breast plate. In this example from the mound at Nimrud the recurring motif is the sacred tree flanked by winged figures—priests in ceremonial dress or more probably genii. In the centre is a beardless winged figure with a chalice and in the border above a heraldic group of a kneeling figure with horned cap grasping by the hind leg two lions, which, in turn, are attacking bulls. Around is a hilly and fir-cone border, and below are the chased handles of two daggers worn by the king.

From Layard's "Monuments of Nineveh"

sculptors of Babylonia employed stone of extraordinary hardness—basalt, diorite, or dolerite, the only varieties procurable. But in Assyria easily-cut stones, such as alabaster and limestone,

were plentiful. Alabaster, in which most of the Assyrian friezes were carved, occurs in great quantities in the neighbourhood of Nineveh. It is a sulphate of chalk, soft, but susceptible of a

high polish. This accounts for the comparative rarity of the bas-relief in the more southerly region and for its profusion among the ruins of Assyria. But the very tractability of the material in which he wrought frequently betrayed the Assyrian sculptor, and his friezes too often display an extraordinary combination of inciseness and looseness of treatment. His chisel, it would seem, has been driven with a stroke at once virile and hasty. The yielding alabaster tempted his hand, and insensibly he was led to over-accent and exaggerate his effects.

Like all early artists he began with the representation of profiles, and maintained his preference for these almost to the end. He had not progressed far when he essayed sculptures in the round, but this attempt he soon departed from. He excelled in the bas-relief, in figures which stood out from the bed with a frankness which in places approaches the round, occasionally reinforcing his relief with a shallow incised outline. Most of his work is in one plane only, a mode which makes for dignity of design if also for monotony. He never employed those devices which seem to get rid of the bed or ground, nor destroyed the wonderful sharpness of his conception by the unnecessary introduction of planes. Of perspective and foreshortening he was sublimely unaware, and this ignorance saved him from the

grand error of those Renaissance schools who made of the bas-relief an excuse for supported statuary.

The colossal figures of lions and winged bulls which guarded the gates of city and palace are, on the other hand, a compromise between low relief and the round. At the first glance they appear to be true statues, but a side-view reveals the fact that only the forepart of the animal stands apart from the block out of which it is carved, for the soft alabaster was much too yielding to support their bulk otherwise. They have five legs, so that they may always present four to the eye. With the figures of animals the Assyrian sculptor was more successful than with those of men. He saw them as they were, and modelled them accordingly.

Babylonian sculpture was to that of Assyria what the Greek art of Pheidias and Praxiteles was to the Alexandrian and Graeco-Roman schools. The softer medium in which the Assyrian worked lent to his productions a greater delicacy than that to which the Chaldeans ever attained, and a certain elegance overspread his compositions as a whole. But in the early sculptures of Babylonia, such as the famous statues of Gudca, governor of Lagash, the modelling is more natural and more sincere. In a word, the Babylonian sculptor studied human anatomy and his pupil, the Assyrian, tended either to neglect or exaggerate it.



CELESTIAL CONFLICT CARVED ON TEMPLE WALLS AT NIMRUD

Flanking the doorway to the small temple of Enurta at Nimrud, these reliefs represent the conflict of Ashur with Tîamat. Ashur was the hero-god of Assyria, and corresponded to Marduk in Babylonia; he was chosen by the other gods to defend them against the primeval dragon-goddess who had planned to destroy them. After a long struggle he killed her and formed heaven and earth of her body. Ashur seems to wield the prototype of the Olympian thunderbolt; the figure on the left is a priest.

From Layard's "Monuments of Nineveh"



ANIMATED SCULPTURE OF GOATS AND KIDS QUIETLY CROPPING THE HERBAGE BEFORE THE CHASE

These delightful figures of wild goats are from a hunting scene, and are the work of the sculptors of Ashurbanipal—the last period, that is, of Assyrian art. The herd is grazing quietly with its young over the plain; for the most part they are unconscious of any danger, but the last of them, on the right, is looking back over its shoulder as though it has caught the first wind of the hunters and beaters who will soon be driving them into the waiting nets. The stricken lions in page 053 give the chase in its more gruesome aspects; about these lesser wild things there is a quiet pathos which is all but unexcelled. With what a rude contrast, artistically as well as emotionally, will the more clumsily executed hunters intrude!

Photo by permission of the Trustees of the British Museum



WILD ASSES HARRIED FROM THEIR UPLAND PASTURES BY THE BOWMEN OF ASHURBANIPAL

This is part of the frieze of which another portion will be found illustrated at the bottom of p. 637. It shows the incidents in a chase of wild asses undertaken by that indefatigable hunter Ashurbanipal. Whereas in the other slab some of the asses seem to be making good their escape, here the quarry appears to have no hope. On the left one ass is wildly with the shock of pain is the thrower strike home. Below another is rolling on, and one has already succumbed. On the right a pathetic figure is struck by a young foal fleeing with the rest of the herd. One feels that the artist, so life-like are his creations, must have been commanded to accompany the chase, so as to observe at first hand what he must later transfer to stone.

Photo by Mr. H. H. of the Trustees of the British Museum



ENAMELLED LION 3000 YEARS OLD

Terracotta objects, such as this lion, dating from about the eleventh century B.C., were often coated with a fine vitreous glaze or enamel firing to tones of blue or green. Objects to be glazed were usually not baked so hard as other bricks or terracottas, in order that the glaze might penetrate on vitrification.

The Louvre Photo by Giraudon

It can scarcely be said that the peoples of the ancient East painted in the sense that we now employ the term. But they revelled in colour-effects, and used them unsparingly in the decoration of interiors. Their pigments were, for the most part, derived from natural earths and plants. The favourite hues were blue and yellow, the former being utilized for the rich backgrounds so characteristic of Babylonian painting and enamelling, while yellow served to give saliency to figures and designs. A dark Egyptian red was also in use, but true reds are as rarely found as greens on the Chaldean palette, and only in rare instances are details reinforced by the agency of those touches of black and white the almost magical effect of which is so well understood and so skilfully employed by the modern decorative artist.

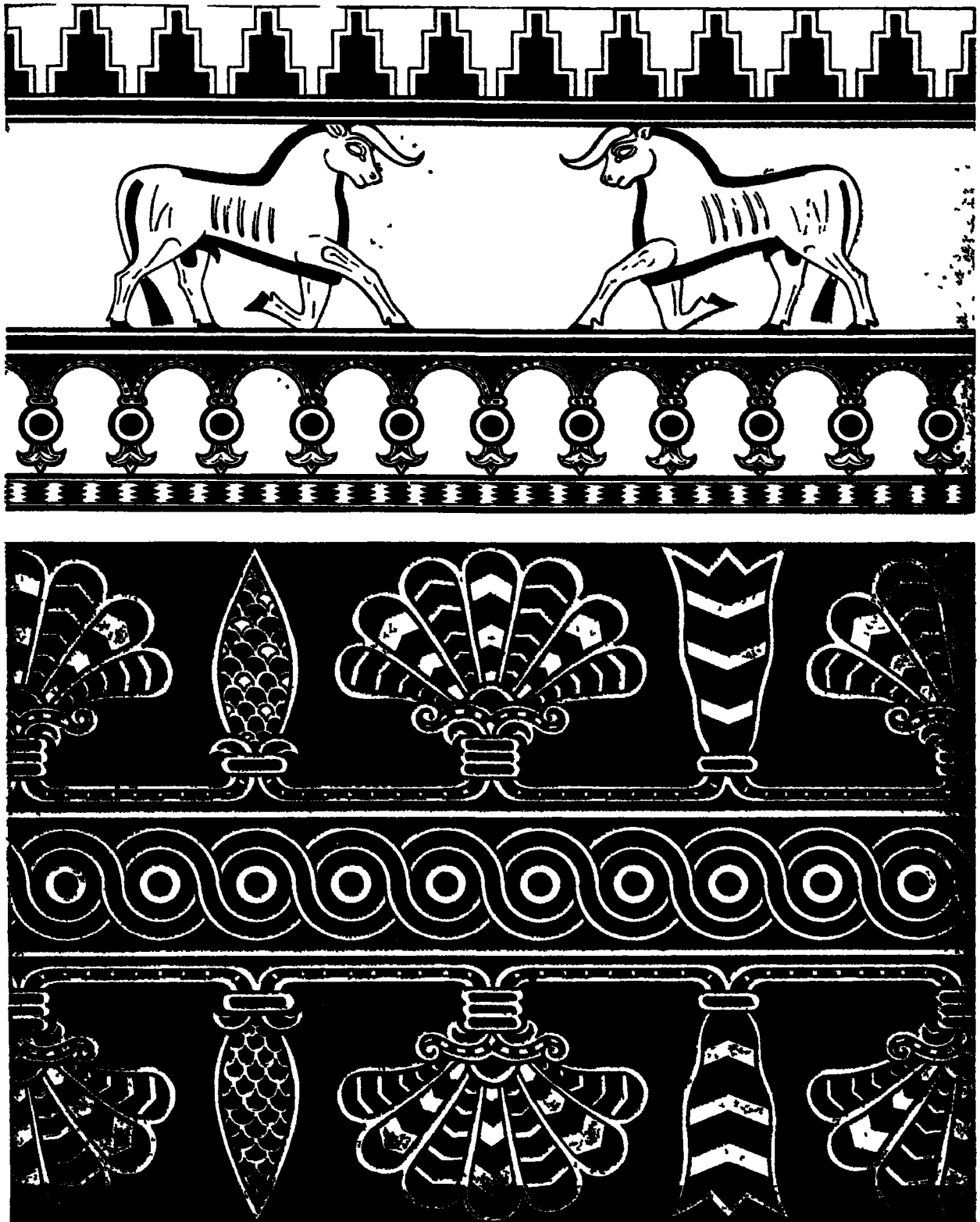
The Babylonian painter sometimes obtained

his blues from an oxide of copper mixed with a little lead. The yellow was an antimoniate of lead mingled with a small proportion of tin, and now known as Naples yellow. His white was an oxide of tin. Dark red was obtained from a sub-oxide of copper or from iron oxide. The whole palette, then, was strictly limited, consisting of some five or six colours.

The painting of old Mesopotamia was purely decorative and in one plane. As with the devotees of modern New Art, the ancient painter refused to confine himself to the tints of nature, and employed those which he considered most suited to the general scheme of decoration. Thus we encounter on the walls of Khorsabad and Nimrud blue bulls and gryphons, yellow men and trees, in short, such unnatural colours and a technique of such conventional regularity as are to be observed in certain ultra-modern wallpapers and posters. For the modern designer, whether he is conscious of it or not, derives his entire 'bag of tricks' from Mesopotamia and Egypt, and in the startling effects which meet us on every advertisement hoarding we can trace legacies of form and colour from the long-dead painters of Nineveh and Memphis.

Extensive as excavation has been in the soil of Mesopotamia, it has failed to unearth those

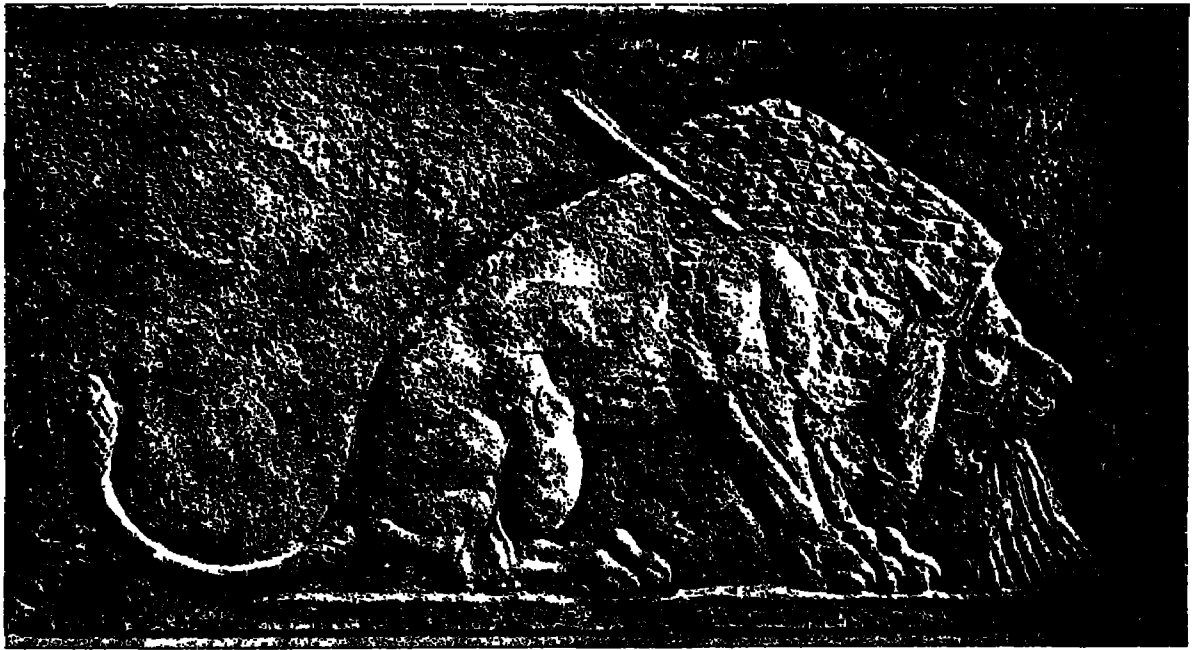
hoards of gold and silver jewelry the discovery of which has done so much to awaken interest in Egyptian research. To account for their absence among the ruins is difficult. We can, of course, form a complete idea of Babylonian jewelry from that worn by the figures on the bas-reliefs. In the foundation of Sargon's palace at Nineveh were found the remains of necklaces of carnelian, jasper, sardonyx, and amethyst cut in almost every conceivable shape. Kings wore necklaces every separate stone in which had a precise symbolic significance. But the massive bracelets which we see worn by gods and monarchs are usually unadorned by chasing or appliqué work. Thunotwithstanding, the Assyrian jeweller was capable of lighter and more graceful designs. Slender gold tubes, soldered by the blow-pipe, and separated by beads or studs cast in moulds, were fashioned



PAINTED BRICKS THAT MADE BRIGHT AN ASSYRIAN PALACE

In the upper of these two painted bricks from Nimrud yellow is the dominant note, and in the lower blue and yellow and blue were the two favourite colours of the Assyrian artist, obtained respectively from an admixture of lead and oxide of copper. Above, two kneeling bulls, outlines picked out in black, face each other between two bands of conventional design, and below we see a portion of a decorative frieze in which intertwining hands separate honeysuckle motifs alternated with fir cones and lilies.

From Lay & Co. Monuments of Assyria



REALISTIC VISIONS OF THE HUNTING-FIELD IN THE DAYS OF ASHURBANIPAL

Incidents from the great hunt of Ashurbanipal. Top, a magnificently proportioned male lion, heart and lungs transfixed by an arrow, vomits a wave of blood and strains every last muscle to keep himself from collapsing. Below, a lioness riddled with arrows, one of which has shattered the spinal cord above the loins, barely drags her paralysed hind-limbs along the ground, yet roars defiance with her last breath. That the Assyrian artists should have carved these things so excellently well does them every credit; that they delighted in carving them only goes to confirm an opinion of their race which its whole history forces upon us.

Photos by permission of the Trustees of the British Museum

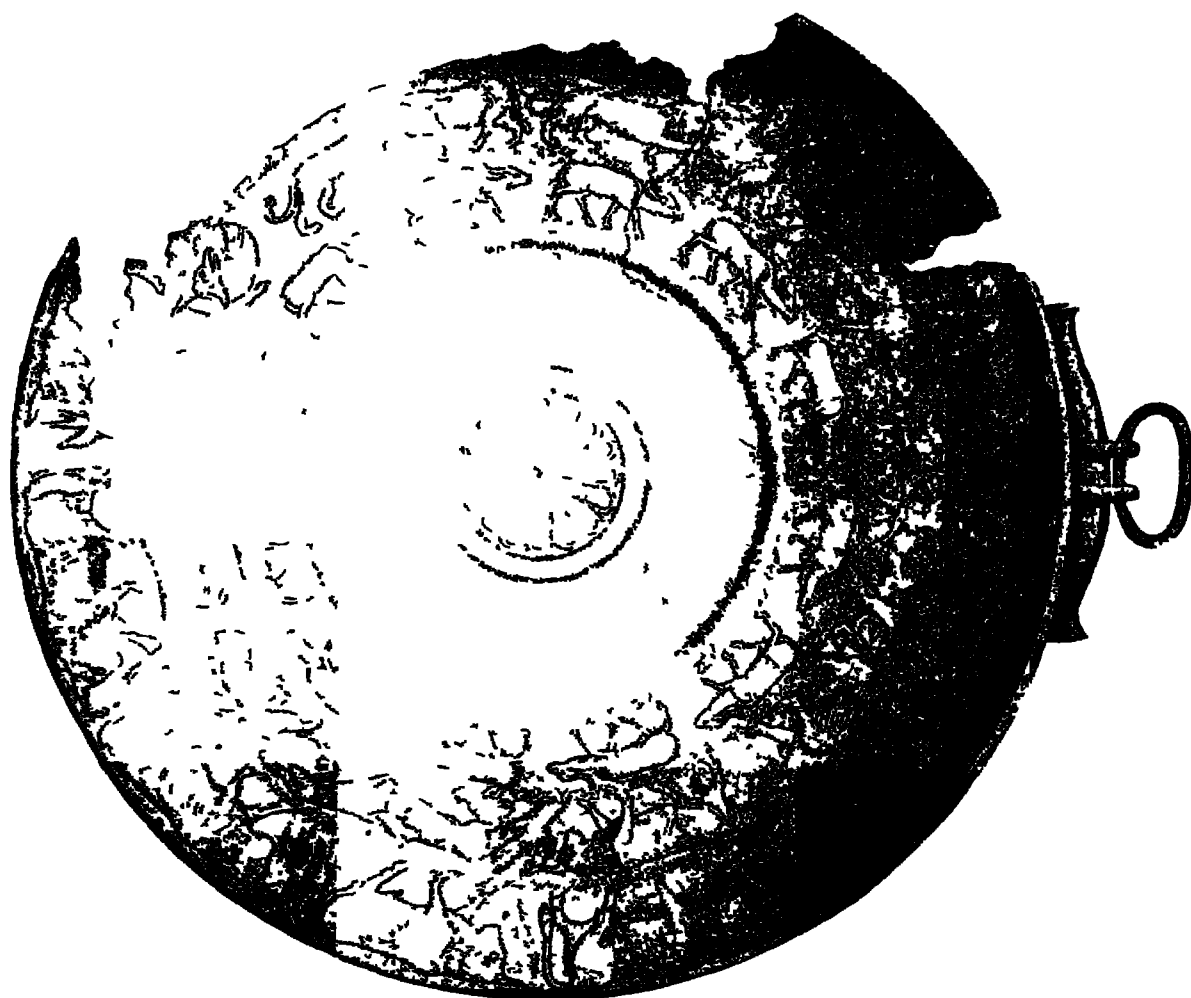
into necklaces for the great ladies of the Court, and from moulds of serpentine which have been discovered we can reconstruct the finer processes of the Chaldean jewellers art. If he wished to make a solid earring or other ornament he ran the molten metal into one of these moulds, and then gave sharpness to the design with the graver or chasing-tool. But he frequently gave a mere shell of gold or silver the appearance of solidity by stamping the metal in successive leaves or layers into the die with a punch or mallet.

Ivory, pearls, and mother of pearl entered largely into the composition of Babylonian jewelry, but the chief glory of the Mesopotamian craftsmen were the wonderful engraved gems which have been found in such profusion. Herodotus was struck

by the very general use made of seals and signets in the city of Babylon by all classes.

"Every Babylonian," he says, "had a seal." It served him as a personal symbol, as a distinctive and unforgeable signature which he could stamp on the clay documents employed for business purposes. These seals were engraved on chalcidony, crystal, jasper, marble, agate, hematite, basalt, and a variety of other stones, and there are indications that they were as much of the nature of amulets as signets, the engraved pictures of gods and guardian genii investing them with a protective significance.

They were ground into cylindrical form so that they might be easily rolled over the soft clay on which letters, contracts, and other documents were



CHASED BRONZE BOWL FROM THE PALACE OF ASHURNASIRPAL.

A hoard of bronze vessels of the same general type as that illustrated above was discovered heaped together in a room of the Northwest Palace, or Palace of Ashurnasirpal, at Nimrud. This particular example is embossed with a flower-like centre piece and three concentric rings of freely executed animals—goats on the inside, bulls on the outside, and in the centre cattle and winged gryphons, both alone and being attacked by lions. On the right-hand side is a ring for suspension, of good technical finish.

Photo by permission of the Trustees of the British Museum.

stamped. They are usually from two to three-fifths of an inch in diameter and from three-quarters of an inch to an inch and a half in length, and they were worn round the neck or wrist by a cord which passed through them lengthwise. The designs were engraved in intaglio. At first these were cut by a hand-drill turned by a bow, like a modern centre-bit. But later, about the eighth century B.C., the lathe or wheel with a revolving metal point attached was brought into requisition. The boring power of this point was reinforced by emery-powder or corundum dust made from sapphires, amethysts, or topazes; only two instruments seem to have been used—one for round hollows and another for straight lines. The early figures engraved by the older process bear a quaint resemblance to the small lay-figures with ball-and-socket joints used by modern painters. In short, the tyranny of his tool was strong upon the early Chaldean gem-engraver. But as he gained in skill and confidence he produced work which can almost compare with that of the best modern lapidaries. At the same time, the execution is a little hard and dry, and is made up of short strokes of the burin close together, the more rhythmic use of the wrist as seen in the best Greek intaglios being conspicuously absent.

Several schools of the lapidary's art existed in Mesopotamia at various periods. Those of Ur, of Erech, and of Akkad seem to have surpassed in more early times, while in later days the capitals of Babylon and Nineveh were renowned for the beauty and finish of their cylinders. We can distinguish those signets made in Assyria by the symbols usually engraved upon them—the mystic tree, the winged globe, the eagle-headed deity—and by the difference in the costumes worn by the figures which are usually present.

No art was so typical of Chaldea as that of the brickmaker. Babylonia was the birthplace of the enamelled tile. It was a land of clay and not of stone, and the clay-brick when painted and glazed made a handsome and enduring ornament. Babylonian tile-making is unsurpassed by the most elaborate productions of modern skill. The clay was reinforced with chopped reeds from the riverbanks mixed with water, and kneaded by foot in wide and shallow basins. It was then shaped in almost square moulds, about fifteen inches square and from ten to four inches thick, and was well burned in an oven or kiln. In laying the brick the face bearing the builder's inscription was turned downwards. Bricks for enamelling were not so thoroughly fired as those employed in ordinary building, as otherwise the colours, when vitrified, would not have penetrated to a sufficient depth. The glaze used in this process was metallic,

an oxide of lead, and the favourite colours employed were antimoniate of lead, or Naples yellow, a white from oxide of tin, a blue from oxide of copper, to which lead was added to facilitate the fusion of the glaze, and a red from suboxide of copper. The figures were first modelled in a vitreous paste, and then coloured with liquid enamels. The paste and the enamels had the same point of fusion, and seem to have melted one into the other so that the somewhat crude and glaring colours of the enamels have been chastened by a pleasing softness as on the Ishtar gate.

The brickmaker was at once the printer and mural decorator of the community, for on the unfired bricks and slabs he made were impressed the wedge-shaped hieroglyphs in which royal edicts, sacred books, and title-deeds were written—ay, even the I O U's of money-lenders, while the beautiful tiles which decorated the walls of palaces and temples came from his kilns.

Early Babylonian pottery is graceful but undecorated. Between the ninth and seventh centuries B.C. a taste for decorating pottery set in. But it did not last. The Chaldean potter seems to have conceived a contempt for his material. Clay was a substance so common and abundant in Mesopotamia that it does not seem to have occurred to him to employ it as an object of luxury or for æsthetic purposes. When the Babylonian or Assyrian wanted fine vases he turned to bronze, and thus only fragments of his faience catch a certain passing distinction.

The Babylonians must have learnt the craft of the smith from other peoples. They do not seem to have employed bronze much before the time of Sargon of Akkad (c. 2800 B.C.), and the oldest metal tools and weapons found at Tell-lo are of copper from the Sinaitic Peninsula, without any admixture of tin. This metal, indeed, had to be procured from a much greater distance, and the nearest sources for such a quantity as would satisfy the large demand were India or the Malay Peninsula to the east or Cornwall to the west. Perhaps the tin in the bronze objects preserved in the Babylonian Room in the British Museum came from Britain many thousands of years ago through Phœnicia. Bronze from Nineveh contains on the average about 89 per cent. of copper. The molten metal was run into moulds of stone or clay of which there are extant examples.

Iron was at first regarded as a precious metal, but later, during the ninth and eighth centuries B.C., was manufactured into tools and utensils of every kind. An entire roomful of iron implements was found at Khorsabad by Place—hooks, grappling-irons, chain-cables, picks, mattocks, hammers, and ploughshares. The smith attached



TOP OF A STELE

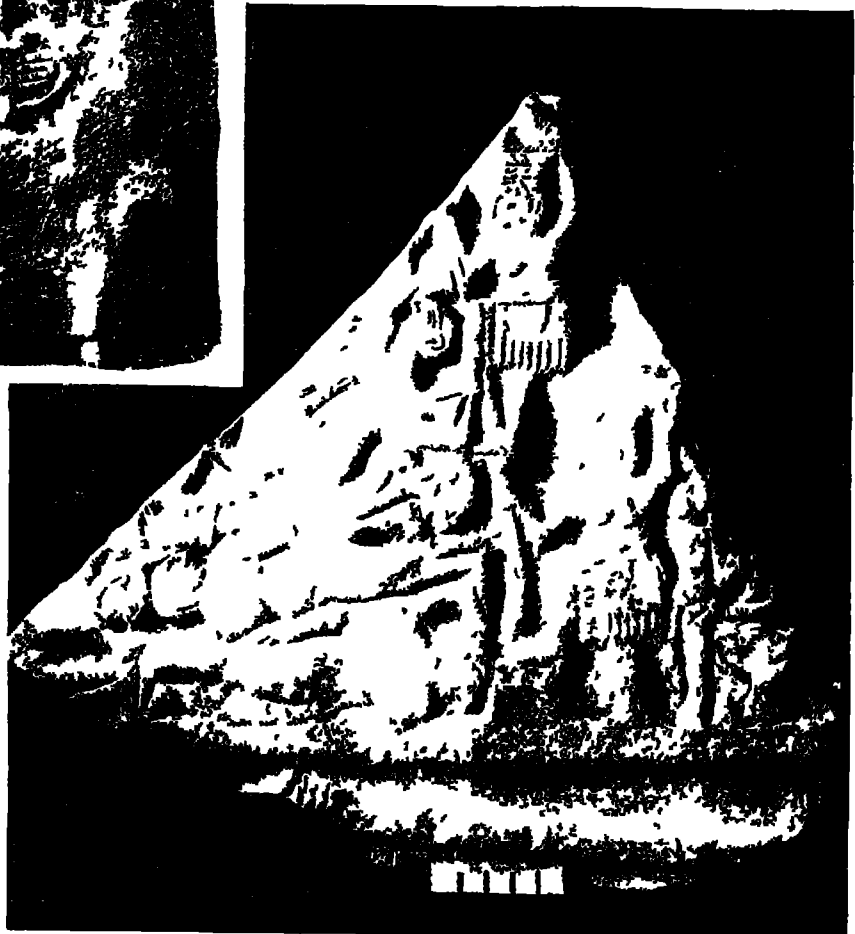
This stele of the time of Hammurabi shows a bearded figure wearing a flounced woollen garment and four-nerved cap. Above his head is the symbol of the double star.

The Louvre Photo by Girardon

to the expedition wrought some of it into sickles, screws, and nuts. The instruments formed a wall of iron, which it took three days to dig out and weighed about one hundred and sixty tons. The Chaldeans procured their iron from the region bounded by the Euxine, the Caucasus, the Caspian, and the highlands of Cappadocia, the country of the Chalybes. Bronze was, in later times, used almost entirely for various decorative purposes.

The art of the carpenter and cabinet-maker reached a high standard in Chaldea. Before the days of Sargon of Akkad there appears to have been a regular trade in the importation of timber from foreign lands. Cedar was brought from Lebanon and Amanus, and other woods from Elam. Wood was always expensive in Babylon as in Egypt, and the lesses of houses usually removed their doors at the end of a lease, just as some modern householders remove their fittings.

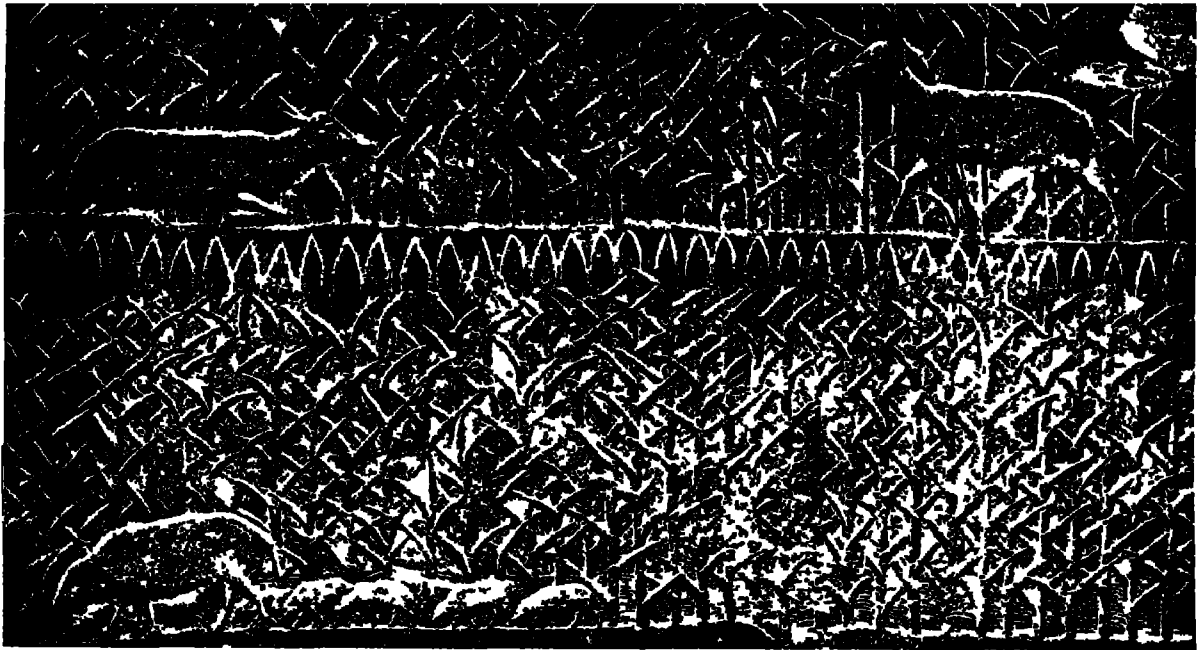
The prophet Nahum alludes to the "pleasant furniture" of Nineveh, and the bas-reliefs furnish us with abundant evidence that his eulogium on Assyrian movables was justified. Unhappily none of it has survived to delight our eyes like the graceful and exquisitely panelled chairs and couches which have recently been retrieved from the tomb of Tutankhamen and the carved semblance of



LAST HONOURS PAID TO THE VALIANT DEAD

A fragment of a stele of hard, white stone discovered at Tell Lo, the ancient Lagash, shows the burial of their dead by the victors after a battle. The corpses lie in a row in a terra cotta tomb, and two men heap earth from baskets over them; another fragment shows birds devouring the conquered. It dates from very early times, when Lagash was a Sumerian city.

The Louvre Photo by Girardon



UNHARASSED BY THE CHASE: ANIMALS ROAMING AT WILL IN A MARSH

This scene forms part of a relief representing the building of Sennacherib's palace—the bird round as it were, but for the absence of perspective. The strange cross-hatching, one of the many conventional artifices of the Assyrian sculptor, indicates marsh land in which animals are taking their rest or wandering at will. At the bottom a sow is nursing, accompanied by her litter. Though sometimes at fault in depicting the life of his own country, the artist here shows an acute observation.



HUNTERS AND HUNTED WILD ASSES PURSUED AND CAPTURED

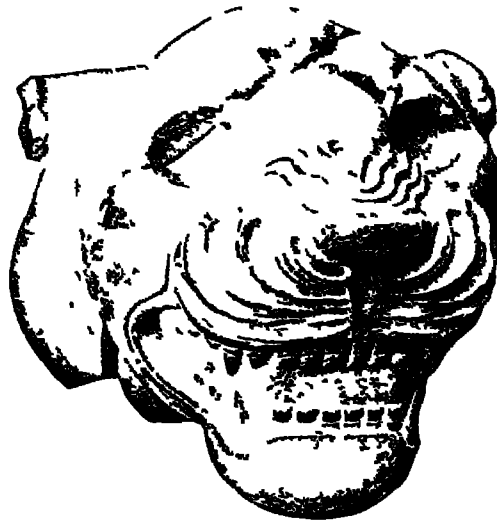
Ashurbanipal, with his huntsmen and his dogs, has gone forth to the chase; a herd of wild asses has been located and surprised, and the beaters have driven them in upon the waiting marksmen, some are despatched with arrows (see page 631), but one at least, as seen above, has been caught—intended, no doubt, to keep up the supply of mules, which were used as beasts of burden. In the lower right hand corner one of the poor animals has stopped in its flight to kick out at its tormentors: a picture filled with life.

Photos by permission of the Trustees of the British Museum

many beautiful pieces is all we possess to solace us for its loss. In Ashurbanipal's gorgeous palace at Nineveh, Layard came upon the remains of the royal throne. The wooden panels and arms had fallen into dust many centuries before, but the bronze plaques and appliqué work remained, the former containing a spirited representation of winged genii fighting with monsters. No rough-and-ready joinery was tolerated in the workshops of Nineveh. The various parts were connected by tenons and mortices, and carefully dovetailed.

The Assyrian cabinet-maker was by no means satisfied with the constant reproduction of similar models. Rich in inventive faculty, he revelled in complex designs, inlaying his pieces with ivory, gold, and semi-precious stones.

He upholstered chairs by fitting brightly-coloured cushions to their seats. The proportion of his pieces is usually light and elegant, and the metal ornaments with which he decorated them never overburdened the almost severe simplicity of the design. These chairs of cedar gleaming with the pale-yellow plaques of African ivory imported from Egypt and carved by the cunning engravers of the Nile-land, rich with gold from the rivers of Arabia, and glittering with stars of rock-crystal, if they are included in the jeremiads of the wrathful Nahum, must still be recalled with affection by every pious lover of that which is beautiful and which excels in grace and richness of fantasy—the dream and vision of the artist and the craftsman made splendidly real.



LEONINE RAGE IN LIMESTONE

This magnificent lion's head is carved in limestone a material which occurs in Assyria but not in Babylonia, and admitted of free and flowing treatment by the Assyrian sculptors by reason of its consistency, soft compared with the Babylonian diorites.



PLASTIC ART IN ASSYRIA AND BABYLONIA MINOR TERRA-COTTAS

Left to right: Terra-cotta statuette of a bearded Assyrian priest, probably a foundation figure, from the palace of Ashurbanipal (height, about 3½ inches); small hooded figurine; terra-cotta head of a Babylonian demon, about 3 inches high, with the features, grotesque but unmistakable, of a mastiff; terra-cotta statuette, 2½ inches high, of one of the favourite hunting dogs of Ashurbanipal; and finally, lightly fired Assyrian earthenware figure, about 4 inches high, of the god Dagon (Anu, the Oannes of Berossus), a divinity blended of fish and man, or of one of his priests; the material is coarse and friable.

Photos by permission of the Trustees of the British Museum

Wonder Cities of Most Ancient India

By S. G. Blaxland Stubbs

Joint Author of "Sixty Centuries of Health and Physick," Assistant Editor of "The Universal History of the World"

ONE of the outstanding achievements of the archaeological method in its modern form, the discovery of the ancient civilization of the Indus Valley, has hardly received the public attention its importance warrants. Ranking only after the discoveries of the Tutankhamen tomb and the royal graves at Ur, it may eventually prove to be their superior, for in their present partially complete state the excavations have not only revealed an Indian civilization 2,000 years earlier than anything previously known, but have thrown new light upon others already known. The matter here presented is largely drawn from the three volumes of Sir John Marshall's great work, "Mohenjo-Daro and the Indus Civilization," published by Mr. Arthur Probsthain in 1932, and is given by permission of the Director-General of the Archaeological Survey of India and of the publisher.—EDITOR.

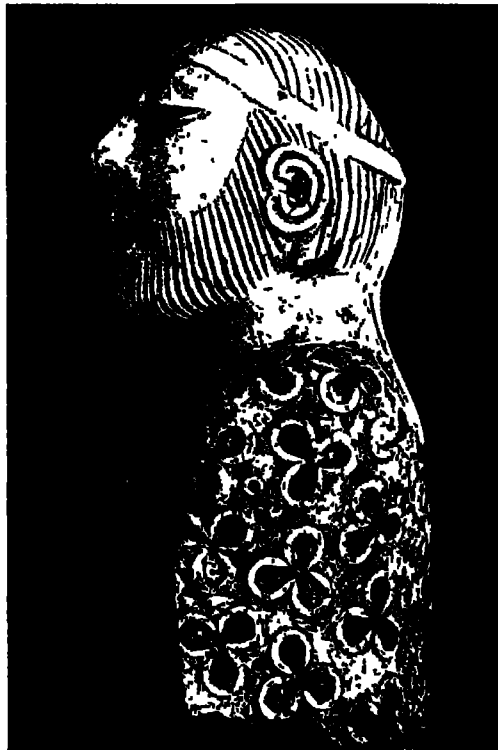
THE early Aryan literature of India, the Hymns of the Rigveda, which, it is commonly agreed date from about 1000 B.C., speak of the people whom the proud Aryan invaders found in India as black-skinned barbarians, "Dāsas" or slaves. But Aryan pride of race has received something of a shock from archaeological investigations carried out by Sir John Marshall and more recently by Dr E Mackay in the valley of the Indus. Here ample evidence has been found of a race whose complex civilization and high culture were equal, and in some respects superior, to those of early Mesopotamia and Egypt. Until these discoveries were made it was never imagined that some 2,000 years before the Aryans entered India, that is, between 3000 and 4000 B.C., the peoples of the districts now included in the Punjab and Sind, and perhaps other parts of India, lived under conditions that many of the more backward parts of Europe cannot equal today. The conquering Aryans destroyed their civilization but it is more than merely probable that some part of the achievements of Indian civilization as we know it, are due to them.

Not only did they live in highly organized cities, like the contemporary peoples

of Ur and Lower Egypt, using implements of copper and bronze, and deriving great wealth from agriculture and widely diffused trade, but two or three thousand years before the Western world discovered how to use it they adopted and wove cotton for their garments, while their splendid baths and well-built houses have so far found no equal in prehistoric Egypt and Mesopotamia. Nowhere else at this time, five

thousand years ago, or even much later, were the ordinary townspeople provided with such excellent houses, such elaborate drainage and scavenging systems, so many wells and bath-rooms, and so high a degree of luxury and comfort.

"So far," says Sir John Marshall, "our researches carry us back no further than the fourth millennium B.C., but there are still earlier cities lying deeper than the spade has yet penetrated." So there must have been thousands of years of primitive effort developing gradually into real culture behind this very early civilization, and some authorities have even suggested that here, in this fertile, still well-watered valley of the Indus—which once had two big rivers, and whose climate has certainly changed for the worse in historic times—was a probable centre of the first

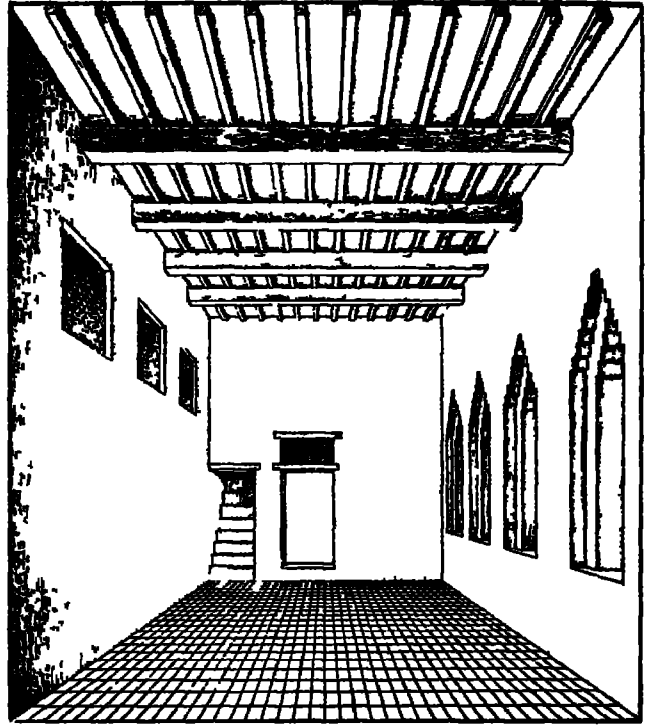


FINE ART FROM INDIA 5,000 YEARS AGO
This excellent piece of sculpture in steatite which is decorated with hard white paste and red ochre, comes from Mohenjo-Daro. It is one of three outstanding examples from the prehistoric Indus culture.

beginnings of civilization itself (see also pages 429 to 434). It is clear that the beginnings of our civilization have been pushed further back than has previously been thought probable.

The two main sites on which the wonder cities of prehistoric India have been laid bare are Mohenjo Daro ('the Mound of the Dead') about 125 miles north of Hyderabad in the Province of Sind and Harappa 450 miles further north. From the fact that the main discoveries have been made in Sind this prehistoric culture has been spoken of as Sindian. Because of its many similarities and associations with Sumerian culture it was first described as Indo Sumerian but its independence of Ur and Akkad has been too clearly established to permit the continuance of this label. There is moreover the probability of the actual priority of the Indus civilization.

The railway from Hyderabad comes within 7 miles of Mohenjo Daro and as the visitor approaches he sees from afar across the desolate plains, the mounds of broken brick that



HALL OF A PREHISTORIC HOUSE

Sufficient remains of timber and plaster work carbonised by fire were found in the ruins of a very elaborate house at Mohenjo Daro to justify this reconstruction. Note the corbelled recesses on the right wall and the trellis windows on the left, also at the back the stairway leading to the terraced roof.

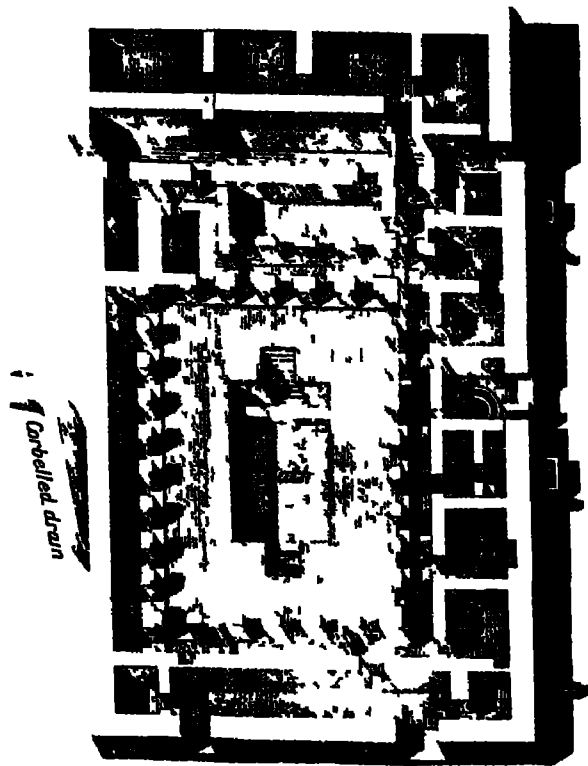


A WONDER HOUSE AT MOHENJO-DARO WITH ROOF REMOVED

This elaborate house was situated in a quiet lane leading out of First Street in what has proved so far to be the most populous area of the 5000 years old city. It was older than its neighbours, and had brick walls 4-5 feet thick, partly as a protection against floods. The projection shows clearly the centre court, and the general arrangement of the rooms around it. It is an excellent example of baked brick architecture.

hide the remains of the ancient cities. One of the mounds is about 70 feet in height and is crowned with the ruins of a Buddhist stupa and monastery themselves nearly 1800 years old. All round is the parched and barren plain white with salt and bearing little or no vegetation beside tamarisk, camelthorn and sparse tufts of coarse grass. And the local climate is reputed to be one of the worst in India with severe frosts and bitter winds in winter, dust storms and drought in summer.

Today Mohenjo-Daro is without any kind of attraction, for it comprises but 240 acres of desolate dust-covered ruins. Five thousand years ago it was a busy flourishing city much larger than the mounds we now see, crowded with wealthy, luxuriously-housed citizens while outside the walls

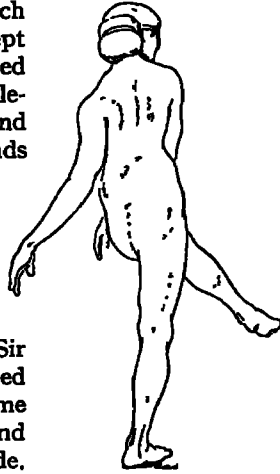


THE GREAT BATH. A REMARKABLE FEATURE OF THE PREHISTORIC INDUS CIVILIZATION

The largest of all the buildings at Mohenjo Daro the Great Bath seen in general view from the south west in the bottom photograph is thought to have been associated with ritual bathing. Sir John Marshall and Dr. Mackay consider that both in excellence and solidity of construction it could not be improved upon by any modern builder. After 5000 years it still holds water. Above top left is an immense corbelled drain high enough for a man to walk erect by which the Bath was emptied. Top right is a reconstruction of the Bath with its verandas and chambers as it existed in the Late Period, probably about 2700 B.C.

there stretched, far across the plains, fields of wheat and barley, whose crops were made rich by the yearly inundation of the Indus. Herds of cattle and sheep grazed on rich pastures. The people kept and domesticated humped bulls (zebus), buffaloes, elephants, camels, pigs and poultry, high-bred hounds and horses.

The city was carefully planned and had long straight streets running at right angles. Let us take a walk down the broad highway which Sir John Marshall has called First Street. It runs for some three-quarters of a mile and is as much as 33 feet wide.



MARVELLOUS STATUARY GRACE FROM HARAPPA

While much of the craft remains of the Indus civilization is rude and without grace, this and two other sculptures (see pages 659 and 663) surpass all other artistic achievements of their time. This statuette of a dancing figure was cut in grey stone. The complete pose is shown in the sketch above.

amply wide for the wheeled traffic which many model carts and chariots prove to have existed. Since the street and its buildings have been opened once more to the light of the sun that shone on them in the third millennium B.C., we may see, not merely ground plans of houses, temples and baths, but their very walls and stairs. Unlike the sun-dried mud bricks of the temples and houses of Ur and Kish, the bricks here are kiln burnt, extraordinarily well-made and laid with great care. They have perfectly flat faces and sharp edges and would do credit to the best modern brickmakers and bricklayers.

The outstanding difference between the buildings of Sind and those of early Mesopotamia is the complete absence of decoration or ornament on the brickwork. This is probably due to the lavish use of woodwork in ancient Sind. None of it has, of course, survived, but the evidence for it is provided by fire, whose destructive powers are balanced by the preservation as charcoal of sufficient pieces of woodwork to throw light on the manner of its use. The effect of the wide expanse of bare, red brick buildings is such that Sir John Marshall likens it to "the ruins of some present-day working town of Lancashire." Stark utilitarianism is the feature of every building. The plainness of the buildings is, however, atoned for by the excellence of their construction.

In our walk up First Street we have the advantage of the work of reconstruction as well as of excavation. We see that the houses varied greatly in size. On one side of the Street are two houses of the size of palaces. One of them, which was eventually burnt down, had a frontage on the street of 85 feet. Its surrounding walls are from four to five feet thick. It had a wide entrance hall with a porter's lodge; thence a short passage led to the great central courtyard, 32 feet square, which, as in nearly all house-building in Asia from the earliest days to the present, was designed to give light and air to the rooms grouped round it. Round this courtyard, which was brick-paved and provided with a covered drain, were placed servants' quarters, a well house, bath room and a guest chamber which had a low ceiling on rafters of deodar wood. From the bathroom ran earthenware drain pipes laid in gypsum mortar and brickwork in a style that, like all the drainage work found in this most ancient city, would probably pass inspection by a modern sanitary inspector. The family lived on the upper floor covered by a flat roof, and, as usual in the East, this served as a terrace for evening and the night.

One room on this upper floor provides dramatic evidence of the terror in which all the inhabitants of the city lived. If the river Indus was a source of wealth to the ancient community it was also a river of dread. Unlike the peaceful inundations of

the Nile the floodings of the Indus were frequently severe and destructive. Many of the buildings of Mohenjo-Daro and of Harappa were built on what now seem to be extravagantly solid basements or raised on artificial terraces which were repeatedly heightened—obvious measures to take against periodic flooding. The flood menace is provided for in this great house by building an upper floor room, with its passages, on a tremendous solid square of brickwork filled in with beaten mud and sun-dried bricks. Two brick stairways led to this part of the house, which was clearly intended to provide a refuge for the family if the rest of the house collapsed under the flood waters, strongly built though it was.

Other private houses have similar characteristics. They are merely on a smaller scale. All have their own circular wells, admirably built in brick, bathrooms and drains, sometimes on the upper floor as well as on the lower. Closets on the upper floors are provided with terra-cotta drains set vertically in brickwork. Rubbish chutes leading from these upper stories are cut in the thickness of the walls. These empty into dustbins in the street outside, cleared by public scavengers. There are no fireplaces. Windows are provided only in rooms opening on the courtyards, and were generally formed with wooden lintels, but some have arches of corbelled brickwork. No sign of the true arch has been discovered in Sind although it was known in Sumeria as early as 3100 B.C.

Under this wide First Street, as under others, run beautifully constructed brick drains and deep brick-lined cess pits connected to the houses by surface drains. Apparently there was a sanitary service to deal with these cess pits for there is usually no arrangement for the escape of sewage underground. One pit is provided with projecting brick steps for the sanitary man to climb down by. The streets were kept clean and clear of rubbish, and it is obvious that the public health was well looked after by the city authorities. One has constantly to remind oneself that all this elaborate public health organization was developed in a prehistoric community well-nigh 5,000 years ago.

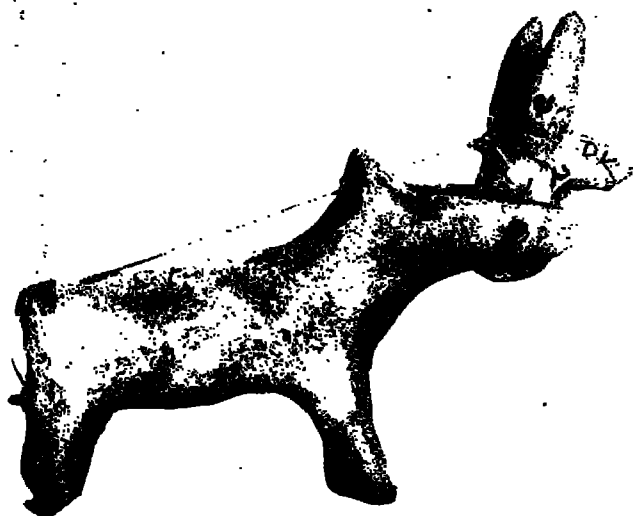
One of the most remarkable buildings in this city is the Great Bath, uncovered early in the excavations

near the Buddhist stupa. It was apparently part of a huge hydropathic establishment. The actual bath with its surrounding buildings was about 185 ft long and 100 ft broad, all within a great enclosure wall from 6 ft. to 7 ft 8 in thick, pierced by six entrances. In the midst of a great quadrangle open to the sky and surrounded by verandahs and twenty rooms and chambers of various sorts and purposes, is the large swimming bath, nearly 40 ft long and 23 ft broad. It is sunk about 8 ft below the fine brick paving of the courtyard. Steps covered with wood bedded in bitumen led down into the water at



"MODELLING SUCH AS HITHERTO WAS UNKNOWN BEFORE THE GREEKS"

In Sir John Marshall's words this statuette in red stone from Harappa, with that of the dancing figure in the opposite page, represent work of which "a Greek in the 4th century B.C. might well have been proud." Nevertheless, evidence is beyond dispute that they are the work of prehistoric Indian artists.



CLAY TOY OF AN INDUS CHILD OF ABOUT 2700 B.C.

One of the most interesting relics of the busy life of these most ancient Indian cities are the children's toys, which also preserve for us details of their parent's life. This clay donkey had a movable head worked by a cord. Toy carts and model chariots have also been found.

each end. The bath was filled from a great well in an adjacent chamber and drained by a huge corbelled brick drain whose roof was 6 ft. 6 in. high, so that a man could walk through it. The bath was most accurately levelled to empty through a 9 in. outlet in one corner. Rain water that enters the bath now, 5,000 years later, still drains away by the original passage so precise was the work of the original builders and so substantially did they build. The bricks were laid to a thickness of 3 ft. to 4 ft. with a very careful finish in mortar consisting largely of gypsum (plaster of Paris). The tank was made watertight not only by the thickness of its brickwork, but also by a layer of bitumen behind this brickwork with treble brickwork and cross-walls carried under the paved courtyard. This surprisingly substantial construction which, in these materials, could not be improved upon by modern contractors, accounts for the marvellous preservation of the prehistoric bath.

Bathing was undoubtedly of great importance in the life of Mohenjo-Daro and other Indus citizens of these early times, and must, as in modern India, have had a ritual significance. Almost every house has its bathroom. One small house even has a bathroom attached to each of its four small rooms.

The Great Bath may also have provided a social centre as in Roman times. Sir John Marshall has found traces in a building adjoining the Great Bath of a hypocaust, similar in principle to the Roman construction and he suggests that here was a hot air bath.

Excavations at Harappa have not yielded so great a wealth of buildings because the site had been quarried for centuries by local builders. Fire-burnt bricks of such fine manufacture would inevitably be freely used for later needs. One building, however, of special interest has been discovered. Slightly larger than the Great Bath at

Mohenjo-Daro it has a large number of small halls and corridors arranged on both sides of a broad aisle. It is so similar in plan to the great store rooms of the Minoan palaces that it is suggested that it was used as a general trade store. Trade was then carried on mainly by barter, a system requiring considerable storage.

Other buildings at Mohenjo-Daro (one of pillar construction) which have been uncovered may perhaps have been used as temples. Phallic objects have been found in some of them. What evidence there is of Indus religion comes otherwise from the beautiful seals and the figurines. These suggest a mother goddess, a male god which was a prototype of the Hindu Siva, a certain amount of tree worship (including apparently the *bo*-tree, still worshipped throughout India), and a good deal of evidence of animal



PREHISTORIC INDIAN DANCING GIRL

As the Nautch girl of medieval and modern India is a common feature of daily religious life, so did she play her part in the Indus civilization. This excellent bronze figurine is one of several statuettes and miniature figures in metal and steatite discovered in the ruins at both Mohenjo-Daro and Harappa.

cults, one providing a close parallel with the Sumerian epic of Gilgamesh. Their mythological animals included, surprisingly enough, the unicorn.

What has been said indicates something of the scale of life in these early Indus cities. What of the manner of life of this somewhat elusive people? In their art they are, on the whole, in great contrast with both the modern Indian love of rich and ornate design and the contemporary splendours of craftsmanship in gold, silver and lapis lazuli at Ur, examples of which are seen in pages 22, 24, and 25. On the Indus houses there is now, at least, no trace of ornament, and their utensils and pottery are plain and without grace of shape. The quantity of statuary and sculpture so far discovered is small compared with Sumeria—only nine pieces of statuary have been found at Mohenjo-Daro—while the many terra-cotta figurines of nude women are, with occasional exceptions, crude in design and feeling. Yet the people were fond of jewelry, for necklaces of various cut stones and beads, bracelets and fillets for the head of gold and silver, were commonly worn by both sexes.

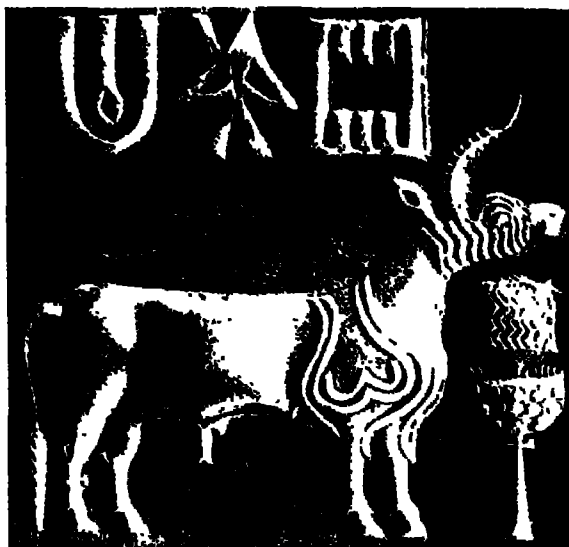
Large numbers of beautifully engraved seals in steatite and faience have been discovered, and in these the level of artistic design and execution is surprisingly high. Impressions from some of these are illustrated. The noble and realistic engraving of the humped bull is especially to be noted, as are the spirited designs of the unicorn (unicorn seals are very frequent and must have possessed ritual significance), bison, elephant and other animals.

But the greatest paradox is presented by three pieces of



PERFECT EXAMPLES OF THE SEAL ENGRAVER'S ART

These seals, cut in steatite and faience with mysterious pictographic designs on them are characterised by the perfection of the anatomical detail as well as of the engraver's art. Top left, a humped-back bull, and below, a bison, while on the right is another example of the unicorn. Close study has failed to reveal any clue to the pictographs.



THE SACRED UNICORN ENGRAVED ON A SEAL

One of the most common forms of the highly artistic seals found in the Mohenjo-Daro and other Indus ruins was that representing the unicorn, which was always spirited in form. This mythological animal must have had ritual significance even among these ancient peoples. Note the altar or cult object on the right.

sculpture which equal or surpass all contemporary artistic achievements. One is a fine broken statue from Mohenjo-Daro of a bearded man in steatite coated with a hard white paste. The hair is bound with a fillet and the upper part of the body covered with a rich robe. The other two come from Harappa and, as Sir John Marshall says, they represent a work of which a "Greek of the 4th century B.C. might well have been proud." They show modelling such as was hitherto unknown before the Greeks. Only the most rigid archaeological verification persuaded the discoverers that these statues were not relics of the Hellenistic civilization that reached India after Alexander's conquests, but were genuine products of the prehistoric Indus culture.

One aspect of the daily life of these ancient people displays their humanity, as Mrs. Dorothy Mackay points out in her excellent paper to the Smithsonian Institution. That is their love of children. "The number and variety of toys found in street and home is remarkable. Model animals, some of them with heads made to nod by pulling a cord, balls and elephants of pottery that rattle, clay birds that are whistles, toy carts with pottery



SPACIOUS HALLS AND CORRIDORS OF A STORE HOUSE OR TREASURY AT HARAPPA

Both at Mohenjo Daro and Harappa very large buildings have been uncovered of which only the lower walls in baked brick now remain. From the remains it is possible to determine the nature and even the smallest detail of the complete structures as the reconstruction in pages 660 and 661 will show. The immense building uncovered in this view of the second great city of the prehistoric Indus civilization was, it is thought, a series of store rooms, halls and corridors such as were required for trade by the enterprisers of those early days. As in other buildings the brick work is of fine quality.

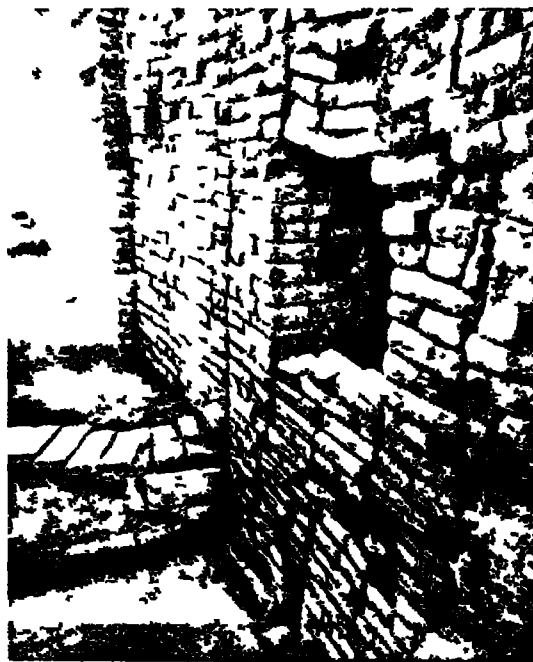
wheels and drawn by model oxen there are in plenty and small boys of those days seem to have played with marbles.

But we are compelled at present at least to complete any survey of the life of these astonishing centres of what is possibly the most ancient civilization on a note of mystery. We know little of the manners, dress, art and religion of these people and since only 24 varied skeletons have been found it is impossible to say definitely of what race they were.

Even their language the pictographic inscriptions seen on the seals is undecipherable. Sir John Marshall is of opinion partly from the evidence of Mohenjo Daro seals found at Kish and Ur that the whole life of the actual cities now uncovered at Mohenjo Daro, Harappa and at least six other similar settlements in Sind, the Punjab and Baluchistan is to be limited to the very short period of 500 years, between 3250 B.C. and 2750 B.C. Dr Mackay is of opinion from the

evidence of Mohenjo Daro seals found by Dr Frankfort at Khafaje and also from Sumerian and Susian finds at Mohenjo Daro that the actual life of Mohenjo-Daro itself comprises some 300 years ending between 2750-2500 B.C. The civilization was already fully fledged at the time at which the excavations have now revealed it, but there must have been a thousand or more years of endeavour to achieve the results we now see.

In the end the river that made the rich life of Mohenjo-Daro possible destroyed all that life and covered city and plain alike in a waste of mud. In the course of these few centuries not only was the bed of the river raised by the alluvium brought down but gradually it was spread over the whole plain and this, added to effects of the devastating floods, resulted in the burial of one city after another. Finally, with the change of climate the desolation of death took the place of the richly productive plains and their teeming cities.



THE MOST ANCIENT PUBLIC SANITATION

The busy life in these ancient cities included an advanced form of public hygiene, including extraordinarily well built drainage systems and arrangements for scavenging. This photograph from the house in the same lane as the reconstruction in page 660 shows the rubbish shoot and drain.

Temples of the Gods. XVII.

The Gods of Ancient Egypt

By Sir W. M. Flinders Petrie, D.C.L., I.L.D., F.R.S.

Professor of Egyptology, University College, London, 1892-1933

With 28 photographs of exhibits in the Museum of Egyptian Antiquities, Cairo

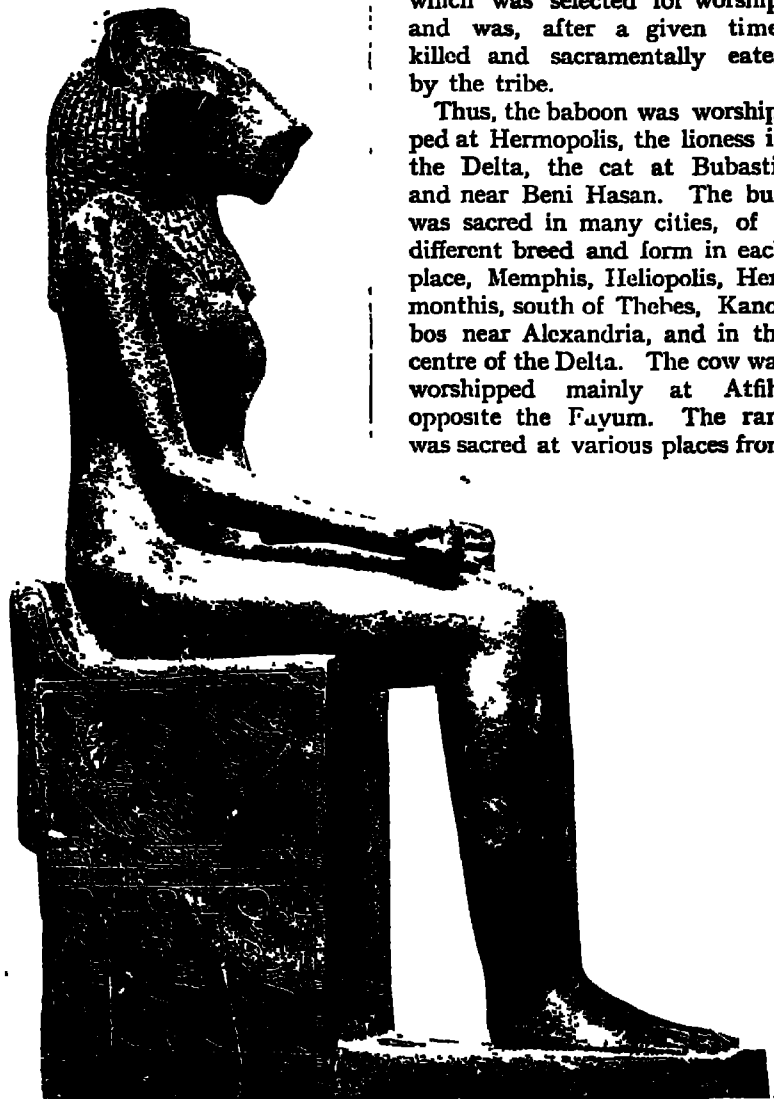
THE Egyptians had the reputation of being "most excessively attentive to the worship of the gods," as Herodotus says. Though this was their national character, it had a different form of expression in every tribe and city. The farther back we can trace the history, the more simple was the theology of each place, until we reach the idea that the origin was with "one tribe, one god." Even the best-known groups of gods, such as the Osiris family, fall apart when we get to primitive tradition, and only one divinity belonged to a single place or tribe. Thus, all the polytheism was the result of the mixture of families and tribes, when they formed a mythology which united the deities belonging to different sources. In this way, the polytheism is really the tribal history fossilised. There was no idea of a "jealous god," no one worship excluded another, each was considered true for its own place and people.

Thus, it was usual for an Egyptian to express his devotion simply to the "great god," meaning the god of his own city, who was to him the great one. The gods were powerful, but not omnipotent. They needed informing of the events on earth; they were not eternal, but might suffer pain, old age, and death, according to various legends.

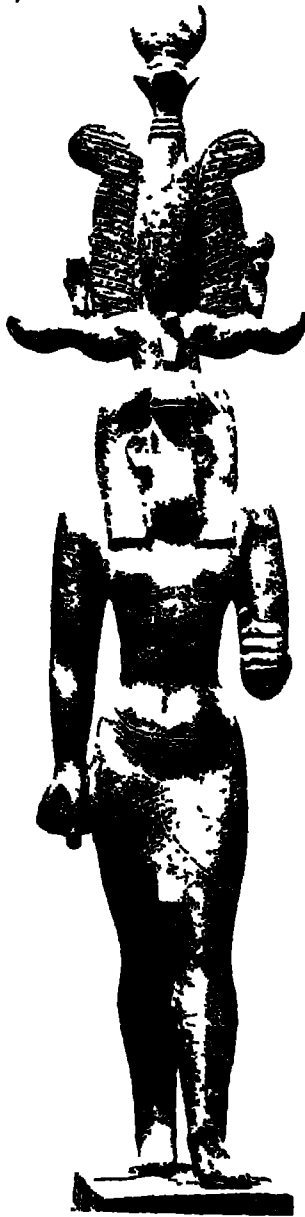
The oldest structure of the people was that which resembled the African in beliefs and practices. There is a large body of customs, especially those concerning the dead, which are closely alike in ancient Egypt and modern Central Africa. In this stratum,

probably preceding 10000 B.C., animal worship was usual; so strong was the primitive influence that this remained in practice down to the Roman age. The source of this was a sense of kinship of men and animals. Each tribe had its sacred species, and the life of the species was carefully preserved, except in the case of one example which was selected for worship, and was, after a given time, killed and sacramentally eaten by the tribe.

Thus, the baboon was worshipped at Hermopolis, the lioness in the Delta, the cat at Bubastis and near Beni Hasan. The bull was sacred in many cities, of a different breed and form in each place, Memphis, Heliopolis, Hermonthis, south of Thebes, Kanobos near Alexandria, and in the centre of the Delta. The cow was worshipped mainly at Atfih, opposite the Fayum. The ram was sacred at various places from



SEKHMET, GODDESS REPRESENTING THE POWER OF THE SUN
Typical statue of the goddess Sekhmet. Second person of the triad at Memphis, she was worshipped as the wife of Ptah and mother of Imhotep.



SERPENT-GODDESS NEHEKA



OSIRIS, 'LORD OF THE WEST'



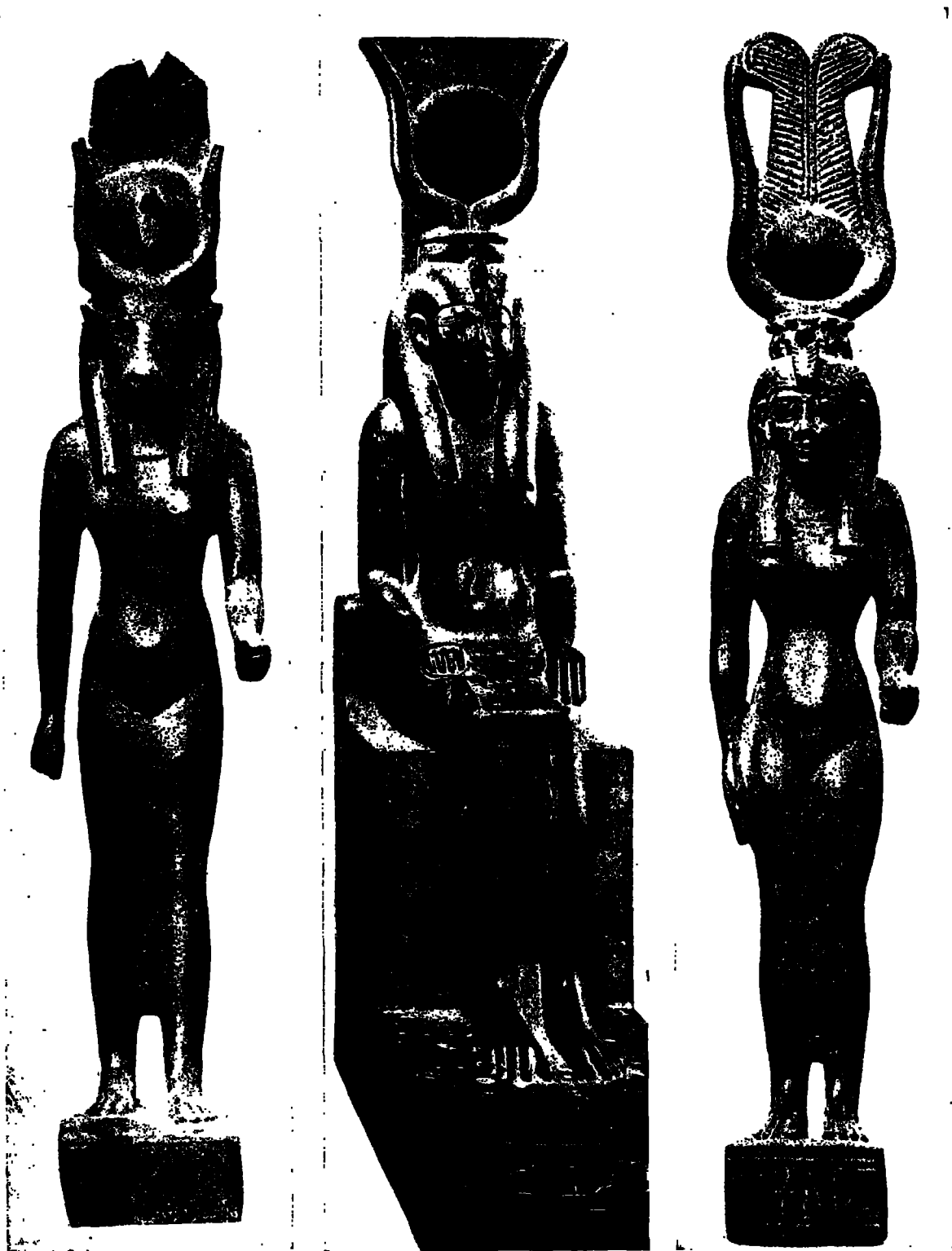
CROCODILE-HEADED GOD SEBEK

Neheka was a serpent-goddess who performed many offices for the dead. Osiris was first of the dead to enter the Otherworld and his name came to denote all who had followed the pathway to Paradise. Highest of all the powers and divine king of Egypt, Lord of the Underworld and dread judge of departed souls, Osiris is crowned with the conical white helmet of Upper Egypt, and holds flagellum and crook, apart from his arms and hands the statue represents him as a mummy. A water-god, Sebek is represented as a crocodile or with a crocodile's head; his temple in the Fayum is mentioned by Strabo.

end to end of the land. The hippopotamus, jackal, and ichneumon were also sacred. Among birds the falcon was supposed to represent the soul of the king, and was specially sacred in the south. The vulture was venerated as a mother-goddess, from her care for her young. The crocodile was much feared, and was kept tame and fed, to propitiate the species. The cobra serpent was a royal emblem, and worshipped as the

goddess of the Central Delta and of harvest. Serpents were encouraged in houses, and looked on as beneficial, this has been well explained by their driving away rats which carried plague.

Later, when the tribes who worshipped human gods entered the country, they each unified their god with the animal god which they found where they settled. Thus were formed the animal-headed gods which are so curious in Egypt. The



ISIS, THE MOON-GODDESS WHO ROBBED THE SUN-GOD OF HIS HEART

Three statues of Isis, who is shown with a cow's head and cow's horns, moon-disk, and step-shaped throne of her husband, Osiris. Originally goddess of the Delta simply, she is sometimes veiled. Osiris and Isis, the only divinities universally worshipped in Egypt, came to represent sun and moon. The cult of Isis spread to Greece and Rome, and Plutarch, in "De Iside et Osiride," tells their legendary story, which lingers in the myth that the tears shed by Isis for Osiris cause the annual flooding of the Nile.



THE GOD AMMON

Ammon or Amen, the Hidden One, god of Thebes, is Ammon Ra, a sun god and national deity of Egypt; headdress, crown with two enormous feathers.



HAWK-HEADED HORUS THE GODDESS NEIT SEKHMET STANDING

Horus son of Osiris and Isis, and representing the rising sun, is here shown with the hawk's head. Other representations of Sekhmet are given in pages 667 and 679. Neit the goddess who was worshipped at Sais, has crossed arrows as symbols, and was identified with Athene and Minerva.

artistic skill of the combinations is such that they seem strangely convincing and natural. It is probable that, as in many races at present, the priest acting in the ceremonies wore an animal head as personifying the god. Thus, we see the head of a ram on Ammon, of a cow on Hathor

and Isis, of a lion on Sekhmet, of a cat on Bastet, of a jackal on Anubis, of a crocodile on Sebek, of a hawk on Horus and Mentu, of an ibis on Thoth, and of a serpent on Nehebka.

There were personifications of the sky-goddess Nut, the earth-god Geb, and of the atmosphere Shu, which separates them. The earliest prayers are addressed to Nut, to receive the soul and preserve it among the polar stars that never set yet there were never any temples or worship of these deities. They seem to have been the first gods in human form.

The principal human gods were the Osiris group introduced from the West with the earliest civilization, about 8000 B.C. Each deity belonged to different tribe, for at first Horus was full grown, an Isis was a virgin goddess. As the tribes fused the Horus tribe was adopted by the Isis tribe, and Horus became the infant son of Isis. On fusing with the Osiris tribe these gods became the family



OSIRIS GROUP: ONE OF THE TRIADS OF THE EGYPTIAN PANTHEON

There were numerous triads in the Egyptian pantheon, due to tribal intercourse. From being a full grown god, Horus became the infant son of Isis (who was at first a virgin goddess), and when linked with Osiris the two other deities became with him the Osiris family. The above triad consists of Osiris, Isis, and Nephthys, sister of Isis, the two last named being associated in funerary scenes. Usually a triad was formed by assigning to the chief god a wife and son.

Osiris. The geographical distribution points to their having come in from the West, being spread over the whole length of the land. Then Set and his wife Nebhat came from the East, being only

found in the Eastern Delta, and where the desert roads from the Red Sea reach the Nile in the south. They were partly fused with, and partly hostile to, what is known as the Osiris group.

Osiris has many aspects, probably because he belonged to a tribe which had no other great god. He was the god of vegetation and growth ; as the dead were believed to go to Osiris, he became the god of the future life, and his kingdom was to be the abode of the blessed. Even down to Roman times, the dead were stated to have "gone to Osiris" on the day of death. The admission to the kingdom of Osiris needed some qualification, so a judgement scene appears, much earlier than the idea of judgement in any other religion. Isis,

originally independent, continued to be worshipped alone, and often appears alone in her temples erected in Italy and the West. She is usually represented as a mother with the infant Horus, from about 600 B.C. In the Roman world she was the patroness of sailors and the mystically beneficent goddess of all nature.

Horus was of many aspects. Originally a separate god, he became in the south fused with the falcon-god and the sun-god of Edfu, and frequently has a falcon head. The falcon being the royal bird, Horus became identified with the king. As being the conqueror of Set, who had murdered Osiris, he became the god of vengeance, armed with a spear. As united with the Isis tribe, he was the youthful, or infant, son of Isis. He was also the sky-god, and the sun and moon were his two eyes. He also became embodied in the three outer planets. In early Christian times Horus as the divine son became a type of Christ ; and as trampling on noxious animals, he was transformed into Michael or S. George fighting a dragon. He is identified in these late forms by the falcon head.

There were other curious types of Horus. He is seated on the lotus flower ; this is a late form and may be due to Buddhist influence under the Persians, bringing in the idea of " the jewel in the lotus." Another form was seated on a lion throne, sometimes protected by Isis and Nebhat, one on each side, as shown in page 677.

Nebhat and Set came in from the Red Sea, and had an incongruous history in Egypt. Formally

incorporated with the Osiris group, Set was always the enemy of Osiris. The final fight of Horus and Set is distinctly stated to be tribal history, the Set tribe being expelled. Yet the worship of Set was continually revived in Egypt ; in the second, the sixth, the fifteenth, eighteenth, and nineteenth dynasties he was worshipped or was the patron god, and appears often on gnostic gems in Roman times. Nebhat never appears antagonistic to Osiris ; she was accepted as the sister of Isis, and one of the commonest ideas was that of Isis and Nebhat mourning together for Osiris, and therefore stationed at the head and



ANUBIS, THE JACKAL-HEADED GOD OF TWILIGHT

He is said to have invented and to watch over the rites of embalming and to conduct the souls of the departed to the realm of shades, where he weighs them and assigns to each its abode. His cult, which spread to Greece and Rome, where he was identified with Hermes, seems to have developed from simple jackal-worship.



HORBEHUTET: RA AS THE WINGED SUN

Paintings from the end wall of the funerary chapel of Hatshepsut and her father, Thothmes I., at Deir el-Bahri. The upper curved form implies exceptional protection, the god being represented as creator, protector, and destroyer. On each side of the disk a uraeus is shown. The symbol of the winged sun is familiar over most Egyptian gateways.

Courtesy of Egypt Exploration Fund

feet of the dead as weepers in all kinds of representations.

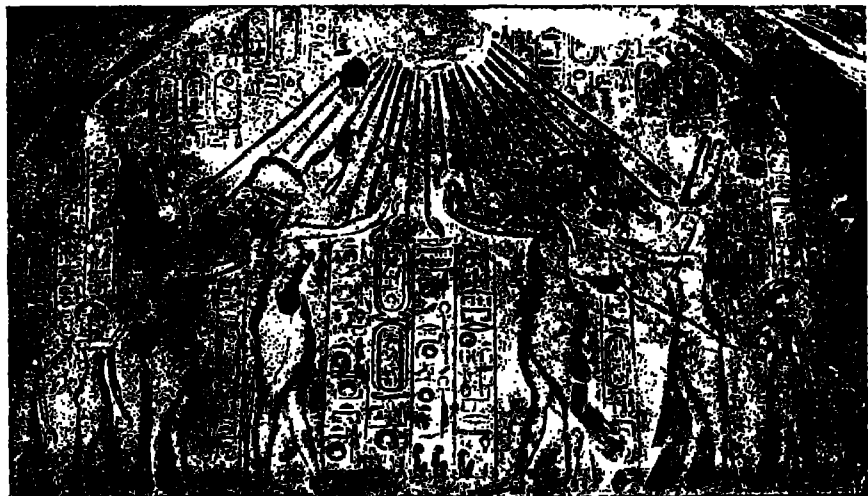
Another human group was Ammon (Amen), Mut, and Khensu of Thebes. Amen probably came from the West, being specially worshipped in the Oasis of Ammon. Mut, the mother-goddess, may have been already established at Karnak. Khensu, the "wanderer" moon-god, seems to be a late introduction, as he had to be combined with other gods already in possession, with the falcon Horus at Ombos, with the ibis Thoth at Edfu, and with Shu and Ra at Thebes.

The Libyan goddess Neit was always entirely human. She was greatly worshipped in early times, and again under the Libyan twenty-sixth dynasty. Her attributes were the crossed arrows, sometimes over the parrying shield, in the form of a figure of 8.

Another class of gods were those of nature,

Beside the wings for flight, the sun often has two uraeus serpents attached, and often two ram's horns. The wings are shown in forms also implying protection, the cobra is the power of judgement and destruction, the ram's horns of creation. Thus the whole signifies Ra as protector, destroyer, and creator. When identified with the falcon god,

which seem to be Eastern in origin, brought in by the second civilization about 7000 B.C. These were mainly sun-gods, Ra the most dominant, also Khepera (Khefere), the morning sun, and Aton (Atum), the setting sun. Ra was, however, the great god of Egypt, and it is probable that his worship was brought in by the second prehistoric civilization, which appears to have been Syrian. The great centre of Ra was Heliopolis, the "City of the Sun," in Lower Egypt; but, as identified with the falcon of Hierakonpolis in the south, Ra appears under the name Behudet as the winged sun, so familiar over every Egyptian gateway. The name means simply the god of Edfu.



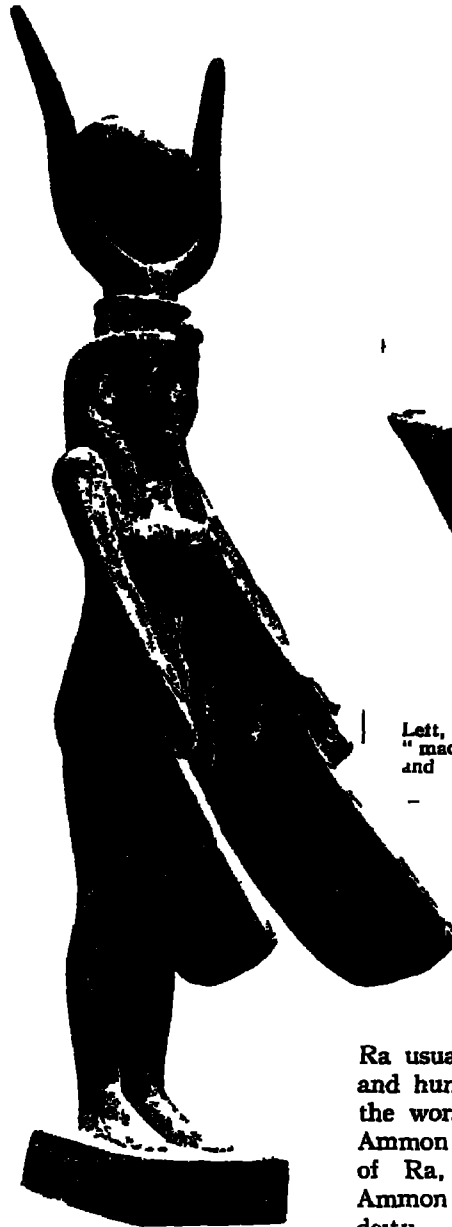
ADORATION OF THE RADIANT ENERGY OF THE SUN

Worship of the solar disk under the name of Aton or Aten began in the time of the mother of Amenhotep IV. The latter took the name of Akhnaton (splendour of Aton), and tried to make the worship of the sun's rays as the source of energy and life the national religion. The photograph is of a sculptured tablet on the rock at Tell-el-Amarna.



ISIS SUCKLING THE INFANT HORUS

Horus was of many aspects. He is shown here as one of the Isis tribe, typifying the morning sun. As such he received the title of his father, Osiris, ruled the world, and was welcomed with rapture and song.



ISIS AND HORUS

Left, statue of winged Isis, who "made light with her feathers and wind with her wings"

Right, Horus, on a lotus flower, a late form, possibly due to Buddhist influence, bringing in the idea of "the jewel in the lotus." The open lotus flower often stands upon a basin representing the watery abyss from which the flower sprang on the morning of creation.

Ra usually has a falcon head and human figure. At Thebes the worship of the local god Ammon was added to that of Ra, and the fused god Ammon Ra was the great deity of the nineteenth dynasty and onward.

This national god of the eighteenth dynasty was subverted, at about 1380 B.C., by the movement originating from Syria for a reformed adoration of the radiant energy of the sun. It is the most remarkable outburst of new ideas that was known, an untimely birth which could not survive in a world entirely unfit for it. The truth was to be the object of life; "Living in Truth" was the motto of the reformer Akhnaton. He could perceive the scientific truth that all force and life is dependent on the energy of the sun's rays, so each ray was represented ending in a hand that acted—

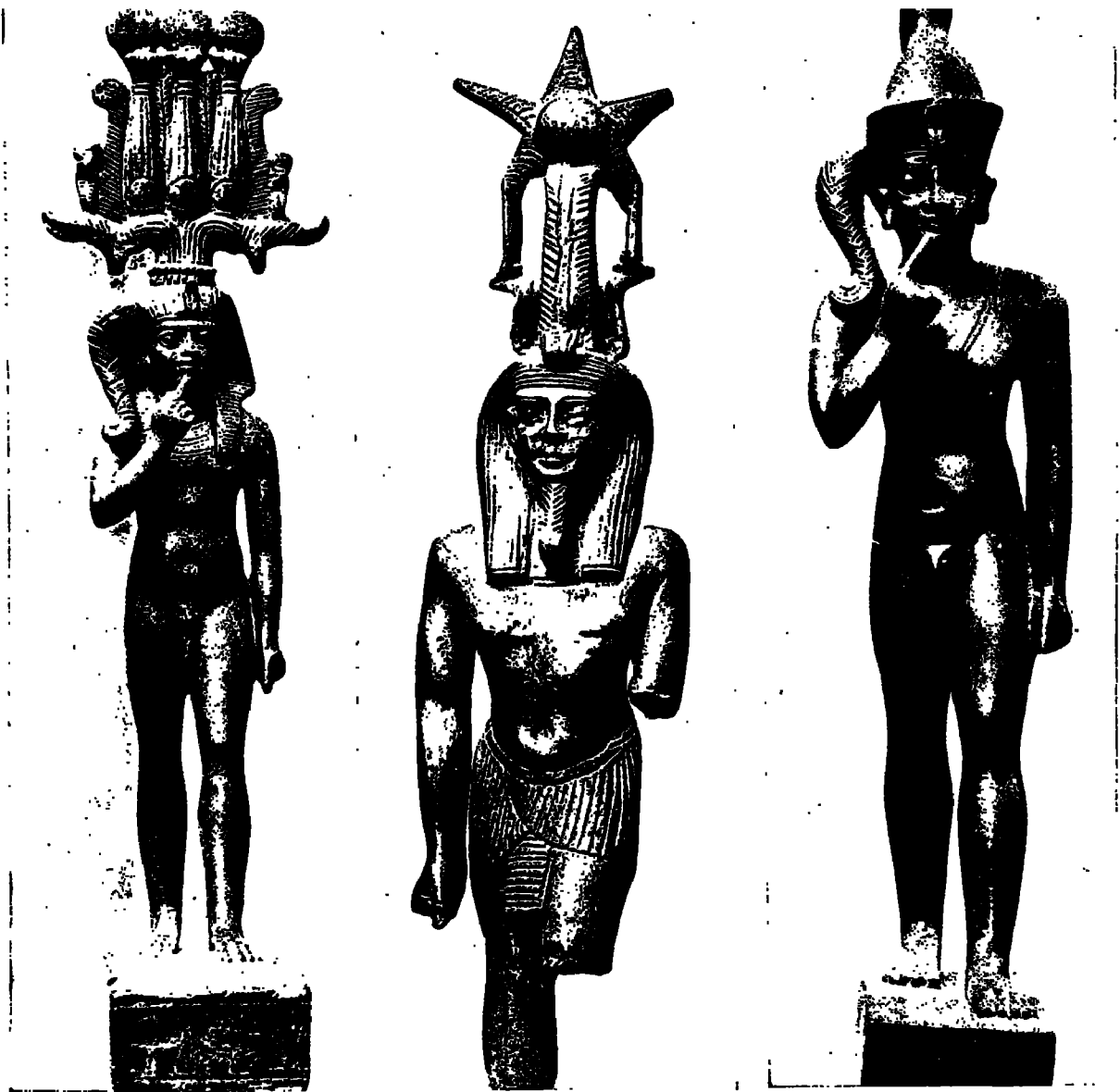


ANOTHER FORM OF THE INFANT HORUS



HORUS AND OSIRIS: FATHER AND SON IN EGYPTIAN MYTHOLOGY

The small figure shows the infant Horus crawling, possibly typifying the dawn. Beneath this figure the god is shown with the head of a falcon, a royal bird, and so identified with the king. In early Christian times Horus as the divine son became a type of Christ; later, as trampling on noxious animals, he was transformed into S. Michael or S. George. Right, figure of Osiris.



HORUS THE CHILD AND A STAR-GOD OF THE MYTH-STREWN FIRMAMENT

On the left is a further embodiment of Horus, this time as a young man, or the youthful sun, with a headdress surmounted with three papyrus heads, a side-lock of hair, and his finger to his mouth, the last-named feature being represented in the statue on the right, showing the god as Harpehrat, the Greek Harpocrates, whom, from a misapprehension of this attitude in the Egyptian statues, the Greeks and Romans regarded as a god of silence. In the centre is the star-god, Sahu, Orion.

giving the emblem of life, and the power of the crown to the king.

This, by a bold stroke of materialism, displaced the ancient gods, who were all proscribed, their names erased, and their monuments destroyed all over Egypt. It was necessary to get clear of all the entanglements of the old capital, so a new one was laid out where Akhnaton—"the splendour of Aton"—could follow the truth without restraint.

The art was to copy truth. In the best hands, it was astoundingly vital; left to the care of the old school, it became utterly caricatured. The

love of nature, and expression of its beauty, was the truth, and it blossomed out over all the decoration and literature. The family life of the king was the truth, and is represented at every turn. The peace of humanity was the truth, but the bloody bandits of Syria would have none of it; "force was no remedy," so they were left to wreck the country by every man fighting for himself.

The world is still far from ready for such a leader as Akhnaton; he would have no chance in Europe at present, where truth and beauty are strangers to men. He died young; after him there

was no energy to carry on the new gospel. Within thirty years the old gods triumphed, and the beautiful dream was over. This worship of the sun as the Aton certainly began in the life of Akhnaton's mother, the name was known still earlier in the sun worship of Heliopolis, and it is reasonably supposed to be the Syrian Adon the Lord. It is the development of the idea of radiant energy, and the living in truth, which were the new motives of this vast change.

The moon was variously personified. Sometimes it is identified with Thoth, the god of measurement and time, as regulating time, otherwise it is Khensu "the wanderer." Most usually it is joined to Hathor, the mother-goddess, who is probably derived from Ishtar or Ashtaroth or Astarte, the Asiatic moon-goddess. Stars were also venerated, as Orion, known as Sahu.

A third series of gods, representing abstract ideas, came into Egypt later, probably brought by the dynastic race, which was filtering in for some centuries before they conquered the land, about 5800 B.C. The greatest of these was Ptah the creator, who overlaid the worship of the bull Apis at Memphis. To unify matters, he was fused with Seker the god of the dead, and with Osiris, and worshipped in late times as Ptah-Seker-Osiris. He was of great importance at Memphis, but seldom worshipped elsewhere; the late date of his introduction is shown by their not being any primitive mythology attached to him, like Geb laying the world egg, or Khnumu as a potter modelling man, or the Osiris legend.

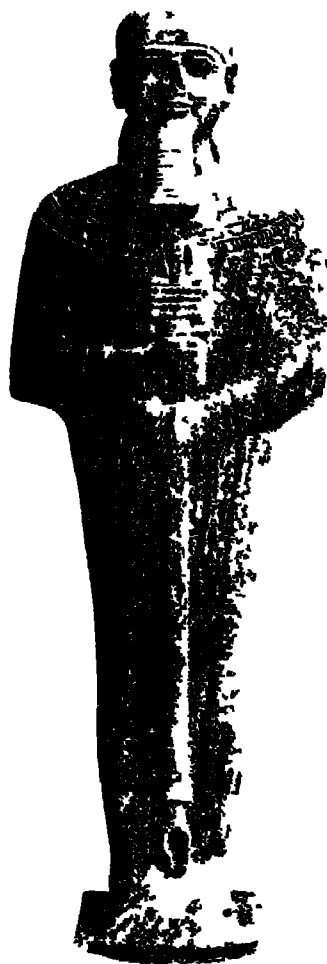
Ptah was the constructor, and his high priest's title was the "great commander of workmen." There were two other gods associated with him at Memphis: Nefertem, who was a god of vegetation and growth, and Imhotep, who was a deified physician, like Aesculapius. He is always represented as seated, holding a roll of manuscript open on his knees. Sekhmet the lion-goddess was the consort of Ptah.

Another group which was prominent among the abstract gods was the father-god Min and mother-goddess Hathor. There is no legend of their producing mankind; they were simply the principles of fatherhood and motherhood. They appear to have come from the south of the Red Sea, and, if so, were from a tribe fused with the dynastic people in their migration. Min became fused with Ammon Ra at Thebes, and Hathor was identified with innumerable local goddesses all over the country, just as the later worship of the Madonna in Italy became fused with any number



THE GOD HORUS SEATED ON A LION THRONE

Here Horus, as the instrument of vengeance against Set, the murderer of his father, Osiris, is holding a spear and guarded on the one side by his mother, Isis, and on the other by Isis' sister, Nephthys, who helped Isis in the quest for the body of the slain Osiris. Nephthys perhaps represents sunset.



PTAH, GOD OF MEMPHIS



NEFERTEM



IMHOTEP, THE PHYSICIAN

Ptah, "the creator," chief of the triad of Memphis, is shown with a mummy like body, close fitting cap tassel at the back of the neck, and holding a sceptre surmounted with symbols of power life, and stability. His consort was Sekhmet, the third person of the triad being their son Nefertem, represented with a lotus springing from his head. Nefertem's place is often taken by Imhotep, revered as a physician like Aesculapius and represented as a young man, seated, holding a scroll of papyrus on his knees.

of local worships. Hathor especially became united with Isis both being mother duties. Other still more abstract ideas were deified as Maat the goddess of truth, and Satekh (Seshet) the goddess of writing but they never had temples.

Beside these gods of the four strata of population, there were some gods borrowed from abroad without being accompanied by their worshippers. The most accepted of these was Bes, the Sudanic dancer in a leopard's skin who became the emblem of jollity and domestic felicity. The Syrian gods Sutekh, Baal, Reshepu, Anatis, Astarte, and Qadesh were all brought in. The most interesting of these are the Aryan gods which came from the Hittites, Anatis or Anahita, and Oadu the wind-god.

Thus the religion, like the population of Egypt,

was always being mixed by successive migrations of invaders. The old African ideas which underlay it all still survive in Central Africa. West, East and North have all poured their races into Egypt every few centuries, they brought in their mythology and worship, and all these were fused together, as place and times and preference might lead.

Till the exclusive religions of Christianity, and then Islam, obtained possession, this mixture went on unchecked. Even still there is much of the old fragments of faith lingering, just as they linger in the West. Feeling is older than reason, and the basal instincts of the mind still unconsciously sway the thoughts, and creep out in daily acts, in defiance of the professed beliefs.



HIPPOPOTAMUS-HEADED GODDESS TAURT

Taurt, the Greek Thueris, wife of Set and goddess of childbirth, is shown leaning on the girdle tie symbolising the cleansing blood of Isis. Her statue, in green basalt, Saite work, was discovered at Thebes in a chapel of white limestone dedicated to her in the name of Queen Nitocris.



LIONESS-HEADED GODDESS SEKHMET

Sekhmet, or Sekhet, a goddess representing the power of the sun, is depicted with the head of a lioness or cat, linked with the solar disk and uraeus, or sacred cobra, symbol of royalty.



CENTRE OF RELIGIOUS LIFE IN OSTIA, AND MOST COMMANDING OF HER WONDERFUL RUINS THE GREAT "TEMPLE OF VULCAN"
Commonly known as the "Temple of Vulcan," but more likely to have been the Capitulum, or Temple of Jupiter, Juno and Minerva, this great ruin stands at the south end of the "Street of the Tiber," on a lofty substructure which is occupied by extensive vaulted chambers deriving light from loopholes, such as may be seen on the side wall bearing inscriptions on their exterior facings. The "cells" above, built like the foundation of red brick, was formerly faced with marble, as the holes in the brickwork show, and has three niches in either side of the interior walls for statues. In front was a "pronaos" (fore temple) of fluted marble columns, the remains of three of which are still standing. The scattered entablature lying around belongs to a restoration of the temple carried out by Septimius Severus.

The Wonder Cities. XVII.

Ostia : Port of Ancient Rome

By Thomas Ashby, D.Litt.

Formerly Director, British School at Rome

IN the eleven years that have passed since the late Dr. Ashby wrote the ensuing description of Ostia for our first edition, excavation and restoration have gone on almost continuously among the ruins of that ancient maritime city, and many details then in doubt are so no longer. But to revise his description in these details would be more difficult than to write an entirely new chapter, for which there appears no need, since in its main essentials Dr. Ashby's account is vivid and accurate, as I can testify from my own subsequent visit to Ostia. And I am more anxious at all times in these pages to convey vivid general impressions than to be accurate in minor and non-essential details. I have therefore chosen to leave this chapter as its author originally wrote it, omitting only a score of lines from considerations of space. It may be mentioned that in addition to the electric railway mentioned by Dr. Ashby, a fine motor road now connects Ostia with Rome.—EDITOR.

THE importance of the fact that Rome was situated on the Tiber can hardly be over-estimated. Half-way between the sea and the mountains, she commanded the only permanent crossing of the river as far as the mouth, and for a considerable distance upstream. And the river, the estuary of which was the only approach to a natural harbour on the west coast of Italy between the Gulf of Spezia and the Gulf of Gaeta, became of vital importance for her trade and for the supplies of provisions that she came to need in increasing quantities. Rome, indeed, brought her ships up the river as far as the city itself until what seems a surprisingly late date, considering the tortuousness of the Tiber's course, the shallowness and rapidity of its stream, and the consequent difficulties of navigation. Only a few years ago a destroyer was brought up the river to be there for a few weeks as a show for the Romans—many of whom had never seen one—and could only just be floated down again before the summer came on.

Neither history nor the evidence of excavation allows us to place the foundation of Ostia on its present site before the fourth century B.C., though tradition makes Ostia the oldest of Roman colonies, founded, it is said, by King Ancus Martius in the seventh century B.C.

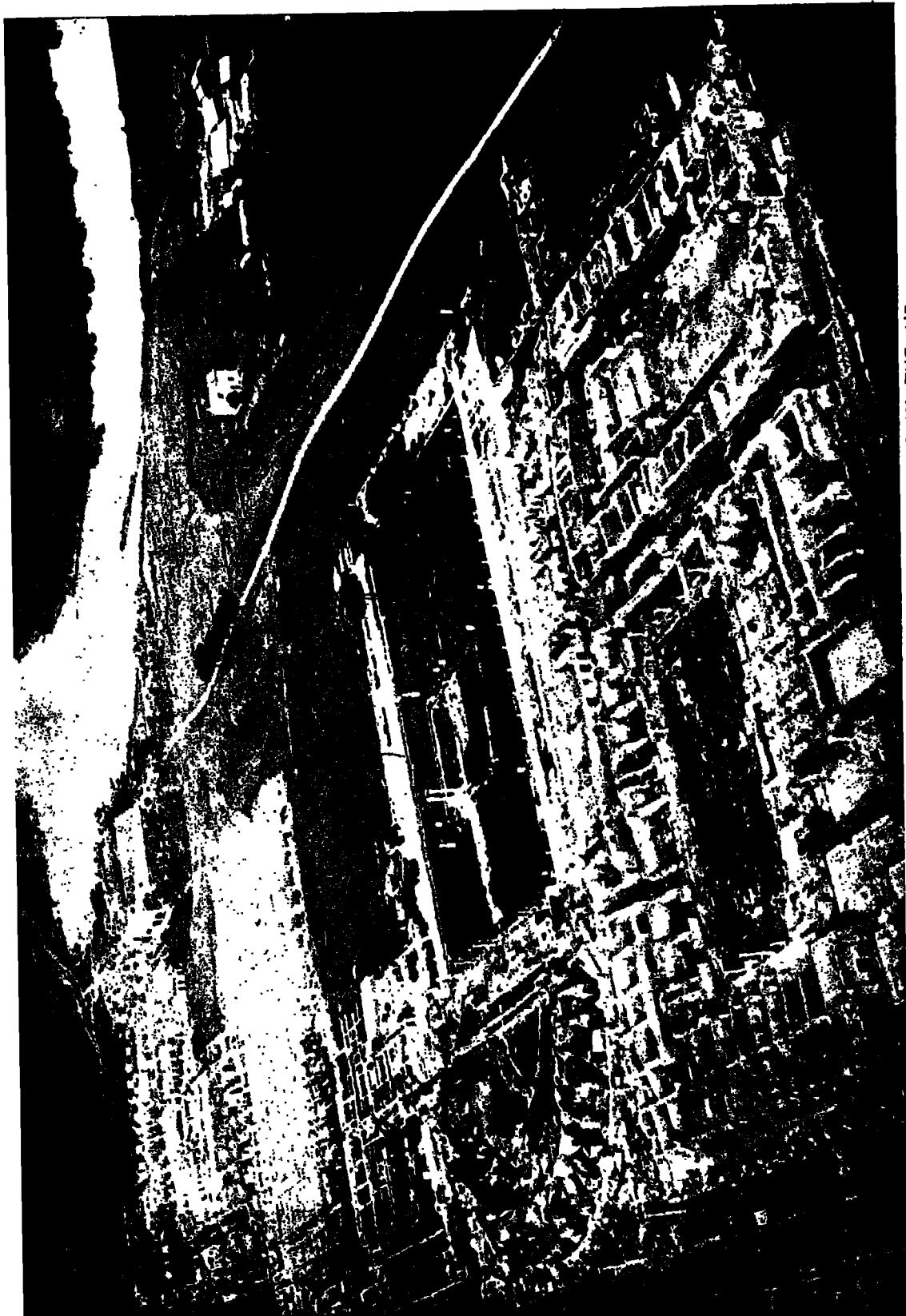
A modern writer, M. Jérôme Carcopino ("Virgile et les Origines d'Ostie," Paris, 1919), has indeed attempted to show that on the site of Ostia there had been one of the most ancient federal sanctuaries of Latium, the seat of the cult of Volcanus—whom he identifies with the god of the Tiber, as well as with Jupiter, Mars and Apollo—and his consort, Maia or Mother Earth, under all her varied forms. But it is probably safer to suppose that its origin is connected with

the salt marshes which have lain at the mouth of the river from prehistoric days till they were given up forty years ago. An ancient trade route led to them from the Sabine country, the main purpose of which is shown by the name of the Roman highway which took its place, the Via Salaria, or Salt Way.

Be that as it may, Ostia does not appear as a port until the Second Punic War, which began in 218 B.C., when it is frequently mentioned as a naval base and as the harbour of Rome. From that time onwards its importance very rapidly increased. We know enough now about its condition under the Republic to be able to say that it lay nearer the sea than was hitherto thought, and grew inland, not seaward, so that there has been far less variation in the shoreline during the Roman period than has been supposed.

The first settlement was, as the traces of its fortifications show, quite a small rectangular fort; but by the time of Sulla, some thirty years before the end of the Republic, it had expanded as far inland as it ever did, and the main lines of its plan were laid down from the first by the principal street, the Decumanus, which was the prolongation of the road from Rome right through the town.

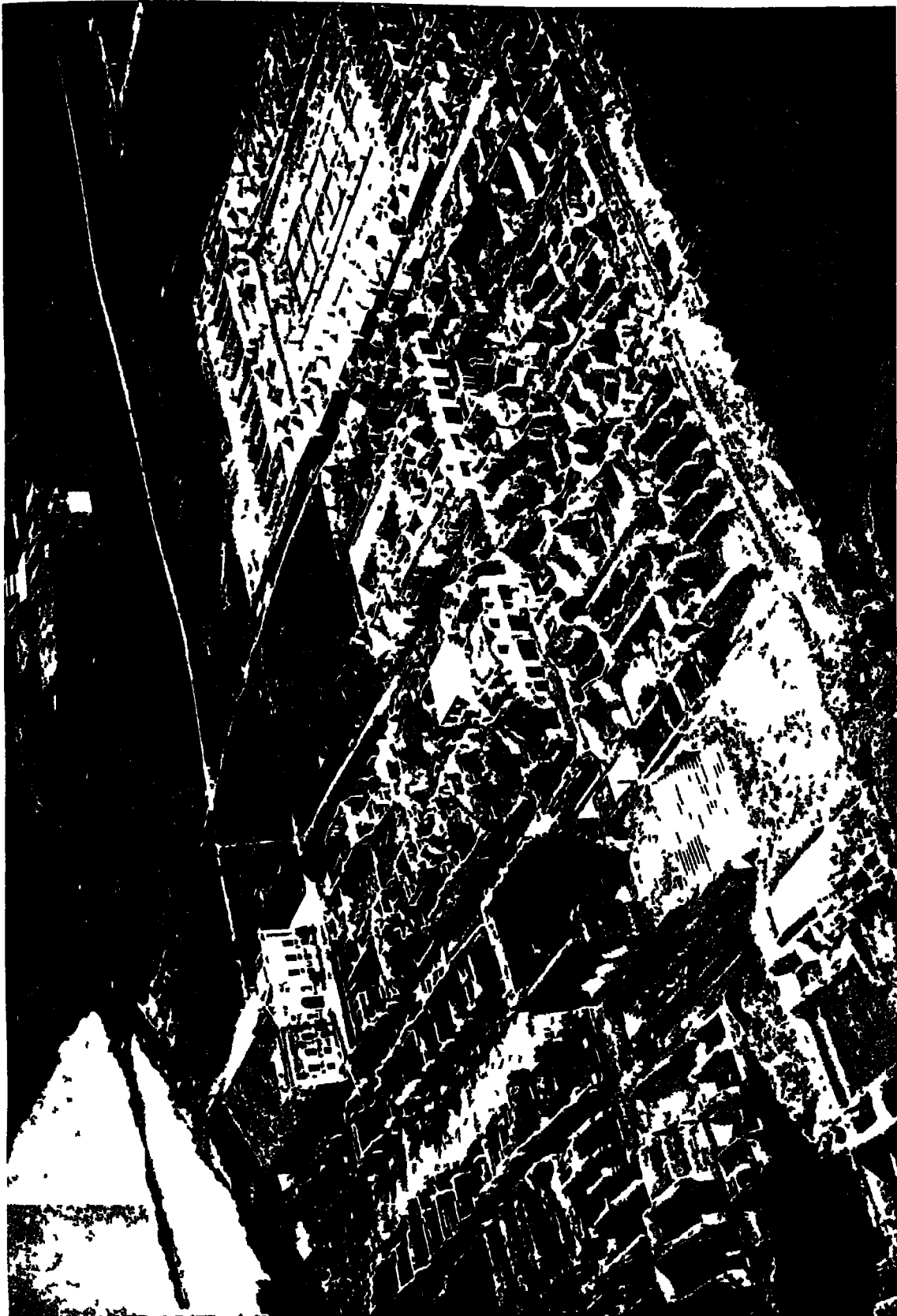
The river in Roman times appears to have run more or less parallel to it, and therefore, in order to fill the space to the best advantage, most of the streets were naturally laid out at right angles to them both, especially in the northern part of the town. These streets, however, met the coastline and the road that followed it obliquely, and it will be interesting to students of town-planning to see, when the excavations have progressed far enough, how the divergent orientations are reconciled. As far as we can judge at present, there have been distinct attempts at compromise.



A COMPACT CITY, "CLOSELY BUILT TOGETHER": OSTIA FROM THE AIR

In the immediate foreground are the "Thermae," or baths, famous for their mosaics, with the "Palaestra," or gymnasium, in the open square behind them. To the right, in the block of buildings separated from the Thermae by the little "street of the Palaestra" are the barracks of the Vigiles (police). The semicircle of the theatre lies on the left with its tree-planted piazza behind, and the Temple of Ceres. Beyond is the Tiber, and the bank of accumulated alluvial silt shown in page 68, can be seen at the bend. Prior to the great flood of 1357, the river-bed lay along a line whose direction is now marked by the well defined road running behind the Temple of Ceres and the Barracks of the Vigiles.

Photo from Dr. Ashby



THE BUSINESS QUARTER AND WAREHOUSES OF THE PORT OF AUGUSTAN ROME
 Beside the square open space on the right are the runs of the great "horrea," or warehouses for produce landed by ships. To the left of them are the streets which contain the wonderful private houses such as the "House of Diana" and the "House of Frescoes," shown in pages 686 and 685. In the left centre is the massive pile of the great "Capitolium," behind which the so-called "Street of the Liber" runs down to the wharves. More of these "horrea" are to be seen on either side of this street. The bank in the river was constructed to stem the progress of erosion into the ruins of the city. Notice how the streets all run at right angles to each other.

Photo from Dr. Aabhy



TREACHEROUS TIBER FLOWING BY THE WALLS OF THE PORT OF ANCIENT ROME

Formerly a busy dockside city by the sea, Ostia has long been deserted not only by man but also by the river, which, carrying down heavy alluvial deposits, flooded frequently and changed its course. It has, near its mouth, eaten away land on one side and piled up new banks on the other: thus did Ostia lose its *raison d'être*. We see here opposite the ruins a great bank, while, upon the other side, the ruins of the ancient town are in parlous case because of the erosion of the river. An attempt to stay this denudation is being made by deposits of soil from the excavations.

Photo from Dr. Ashby

Two difficulties were never absent: the dangerous southerly winds, and the silting up brought about by the Tiber which carries down an enormous quantity of solid matter, so that the coastline at the mouth is still rapidly advancing. Caesar had, we are told, intended to build a proper harbour, and to dredge the foreshore, but death cut short these and many other of his plans; and we have, from the geographer Strabo who wrote in the time of Augustus, an interesting account of Ostia as "a city without a harbour. . . . The ships anchor in the roadstead, not without risk; but the love of gain prevails, for the large number of lighters which receive the cargoes and reload them allows them to enter the river without great delay, and when they have unloaded part of their cargo they sail in and go up to Rome."

Augustus and Tiberius devoted their attention to the city itself—the original theatre, among other buildings, is due to the former—and it was Claudius who turned his attention to the realization of Caesar's scheme by constructing a large harbour on the right bank of the Tiber, two and a half miles to the north of its mouth. This part he connected with the river by a canal which formed an island

and gave the river a second outlet, thus liberating the city of Rome, as he fondly believed, from the danger of inundation. But he made a fatal error in placing it to the north of the mouth of the Tiber, desiring no doubt to avoid the dangerous southerly winds, for inasmuch as the coastwise current runs from south to north, the silt brought down by the river was deposited in the harbour. That it was difficult to enter, too, is abundantly evident from the fact that 200 ships were lost off Ostia during the reign of Nero.

The reign of Domitian, in the last twenty years of the first century after Christ, appears to have witnessed the beginning of a reconstruction of the town on the same plan as before, but on a higher level, in the form in which it lies before us, but the greater part of the work was done by Hadrian and by his successors, particularly Septimius Severus. We are not as yet in a position to date the brickwork of Ostia with such accuracy as to determine with certainty the exact period to which each building is to be assigned.

Trajan, on the other hand, who was Hadrian's immediate predecessor, at once devoted his attention to the new harbour, Portus, where he constructed a basin between the harbour of Claudius



LIKE MODERN ROMANS, THE PEOPLE OF OSTIA LIVED IN FLATS

Stout brick and tough mortar that have stood well against the ravages of time were used to build these massive "insulae," or flats. The extraordinarily thick walls must have made the apartments most comfortable to live in—warm in winter and cool in summer. This view, which is of the same house as is shown in page 8, shows clearly the separate entrances to the series of flats one above the other that made up the building. Fragments of interior plaster still adhering may be seen on the walls on the extreme right. Notice the graceful pilasters on either of the main entrances, with the ornamental pediment above them.

Photo by Dr. Ashby

and the river, and a new canal to the sea, which still bears the name of Fossa Traiana, and is the navigable arm of the river.

Ostia became a quarry for the cathedrals of Pisa and of Orvieto, while Porto (the old Portus) was apparently much less ransacked until the excavations of the nineteenth century. Nowadays, there is little to be seen on the latter site. The outline of the harbour of Claudius can barely be traced in the plain, a mile and a half now from the open sea, so far has the coast advanced; the various basins and docks and warehouses of the port of Trajan have been carefully studied and planned by Canina and Lanciani, but now lie half hidden under vegetation, and only the great hexagonal basin which formed the centre of the harbour still contains water. Even it is largely blocked up with reeds and rushes, and is a hot-bed of malaria in its picturesque desolation. It is overlooked by the lofty tower of the fortified episcopal palace of Porto, and by the red Villa Torlonia, with its portico of fat columns, which lies on the opposite side of the lagoon.

At Ostia, on the other hand, the last few years have brought about great changes. A sturdy colony of agriculturists has established itself in the medieval village, under the shadow of the splendid castle built by Giuliano della Rovere (afterwards Pope Julius II.) to command the bend

of the Tiber. Already the dreaded malaria is far less of a scourge than it was, while a flourishing suburb is being built on the not very attractive shore a couple of miles beyond the ancient city, and the construction of an electric railway renders both the shore and the excavations so easy of access from Rome that they should form part of the programme of any visitor who has more than the bare minimum of time at his disposal. For he will here see more of the life of an ancient city than anywhere else in Italy except at Pompeii.

We are in the presence then, at Ostia, of a seaport town, at which the ships which brought to Rome supplies of food and other necessities, and all kinds of luxuries, discharged the greater part of their cargo. We shall expect to find a great part of the area of the town taken up with storehouses, but we shall also expect considerable evidence of the wealth and importance of a city which performed so important a function for the metropolis of the ancient world, at a time when its population was not far short of a million.

But what will probably surprise us most is the extreme modernity of it all. Pompeii itself has shown, in recent years, that the old conceptions of the monotony of the external architecture of the houses of a Roman town must be abandoned, that their street façades were adorned with loggias and balconies, and decorated with paintings. But at



RESTORATION OF THE WONDERFUL "HOUSE OF DIANA"

Built foursquare with thick walls of unfaced brick stood this strong and beautiful house. On the ground floor were shops and offices, entered by the large doorways. To the right are two narrower doorways opening on stairways to the flats above. Underneath the windows of the second floor is a fine balcony of brick adorned with a moulding and supported by graceful arches that were brightly coloured. At the left corner of the top floor the artist has imagined a pillared loggia from which the inhabitants might watch the diverse scenes in the street, or view the busy scene at the docks and river beyond.

After a reconstruction by Gismondi

Ostia we have (with only two or three exceptions so far) quite a new type of domestic architecture, which differs entirely from the Pompeian, and approximates far more closely to modern styles.

The "atrium" is lacking from the houses, and light is obtained from numerous windows opening on to streets or open areas (courtyards or gardens). Such houses are divided into a number of apartments or flats, which are quite independent of one another and are approached directly from the street by different entrances and separate staircases. They reach to a height of three or four floors, the plan of each floor being often identical, and almost always have balconies on the street.

These houses probably correspond to the "insulae" or tenement houses, of which classical writers speak, and they prove the Roman origin of many of the characteristic features of medieval

and modern domestic architecture, which have probably been handed down by uninterrupted tradition. Such a building as the "Casa di Diana" or the "Horrea Epagathiana et Epaphroditiana" is perpetuated in the courtyard houses of medieval and modern Rome. The brickwork was in most cases probably left visible, the arches being picked out in red, as Signor Italo Gismondi's fine restorations show. We cannot attempt to describe the city in detail, but a brief survey of what has so far been laid bare may be given.

The topography of the site is so simple that the shortest description will suffice. Arriving from Rome (at present by motor or motor-bus along an execrable road) we pass by the castle, which now contains a small local museum. Many of the best pieces of sculpture from the site are dispersed among the museums of Europe, while even now



IMPOSING RUINS OF AN ARCHED DWELLING HOUSE OF OSTIA

The House of Diana here illustrated was built on a model often referred to by classical writers and its general plan was followed by builders for many centuries after Ostia had been deserted by the inhabitants who feared the scourge of malaria. Many of its characteristic features are evident even in the courtyard buildings of modern Continental cities. In its complete state the house must have been the object of universal admiration to strangers arriving at the port, as well as to the Roman inhabitants themselves.

Photo by Allnari

many of the best pieces are removed to Rome, instead of being, as might seem better, left on the spot. The castle is built of red bricks taken from the buildings of the ancient city.

Entering the area of the excavations we soon find ourselves in the Street of Tombs. The earlier of these are the little 'columbaria' of the first century of the Empire—small chambers round which are niches like those of a dovecote (hence the name). In these, those who could afford it placed beautifully carved cinerary urns in white marble, while the poor had to be content with earthenware urns, built into the wall. These small chambers were finely decorated with mosaic pavements and elaborate stuccoes on the walls, inasmuch as they served for anniversary meetings and banquets of the members of the families or burial clubs to which they belonged. Most of the tombs were used over again in the third century after Christ

for burials—bodies were sometimes placed in marble sarcophagi but more often in compartments separated by thin walls. Sometimes as many as four or five corpses were laid one above the other and separated by a layer of tiles.

We then reach the city gate of the time of Sulla reconstructed at a higher level under the Empire (though the city walls had passed by that time entirely out of use being no longer needed) and the main street of the city opens before us. It was an imposing thoroughfare, paved with blocks of lava, like all the streets of Rome and the high roads of the Campagna, and flanked on each side by porticoes. It has so far been cleared for almost two-thirds of its total length, a distance of nearly half a mile, but excavation has been almost entirely confined to the buildings on the north and right-hand side of it, and the total area cleared is perhaps not more than one-quarter of the whole.



REPAIRING THE RAVAGES OF TIME ON THE BUILDINGS OF OSTIA
 Illustrated here is the "Hortia Lepithiana" referred to in the text in page 686. The workmen are repairing and reconstructing the main doorway of the building in ornamental brickwork with pillars of the same material and decorative facings of plaster. Such reconstruction must, of course, draw to some extent on the imagination as regards the upper floors.
 Photo by Dr. Ashby

site, though it includes a number of the most important public buildings. We will mention and briefly describe a few of these

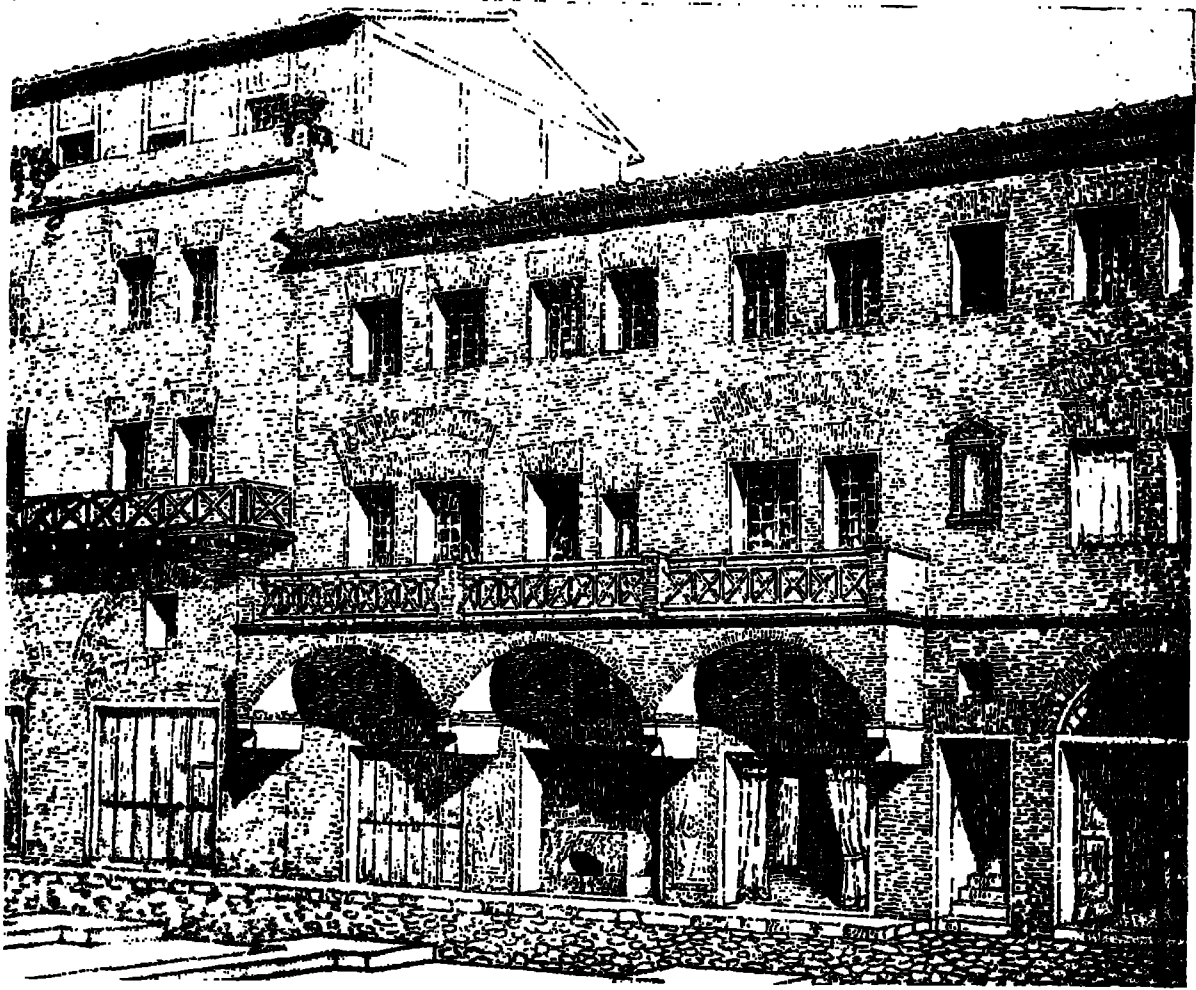
The Forum, the centre of civic life, was situated in the centre of the town, on the south side of the main street. It is still under excavation, and has been much ruined; but some very fine remains of the architectural members of a temple of the period of Augustus have been brought to light. Opposite to it, on a lofty base, stands the most conspicuous

building in Ostia, which towered above the sand-hills when the rest of the city lay buried beneath them. This has been known until recent years as the Temple of Vulcan, but its position, facing on the Forum, makes it much more likely that it was the Capitolium (a temple dedicated to the three deities venerated in the temple of Jupiter on the Capitol of Rome itself, Jupiter, Juno and Minerva), which is similarly placed in many of the Roman colonies of North Africa and elsewhere in the Roman world. The warm red tint of the bricks of which it is built is very pleasing to the eye, though they were, of course, faced with marble in old days. Their size and the manner of their laying indicates that the temple belongs to a comparatively late date in the history of the town (not before Hadrian certainly), and whether or where this worship was carried on previously we do not know at present.

Two other important groups of public buildings will be found a good deal nearer the gate—the theatre and

the colonnade behind its stage, and the baths with the palaestra (or gymnasium) adjoining them.

The origin of the theatre, as we have already seen, dates from the time of Augustus: but it was twice restored, once in the time of Septimius Severus and Caracalla (in 194 A.D.) and once at the end of the fourth century. It is not especially well preserved, though the fine brick cornices of the exterior (here intended to be left visible) are worthy of remark. At the back of the stage was a colonnade,



WHERE THE "RICH FALERNIAN" WAS DISPENSED: A BAR IN ROMAN OSTIA

The restoration above shows a drinking-shop which occupies the central one of three arches supporting the balcony of the flat on the second floor. In the lower photograph are seen the remains of the bar whose doorway with the small fragment of marble facing can be seen in page 695. The broken counter has a sink below it, and behind is what remains of a stone dresser.

Restoration by Giamondi. Photo by Dr. Ashby



MAGNIFICENT HOMES OF ROME'S SHIPPING MERCHANTS

Adorned with arches and graceful balconies all of mellow red brick is this great building that stood in the "Street of the Fountain." Its apparent beauty and the skilful planning of its internal detail make one speculate as to whether the highly intricate flat dwellings of modern cities are much or at all superior to the houses of these remote days. One palpable advantage of the ancient Ostian flats is that each separate one had its own street door. Other aspects of Roman civilization dealt with in this work show that many of the 'conveniences' of life called by latter day house agents "modern" were understood and universally practised by the Romans.

After a reconstruction by Giamondi



TWO CENTRES OF PUBLIC LIFE IN THE FIRST ROMAN COLONY

Commanding the whole town not only by reason of its size but also because it was the shrine of the three greatest deities of all Roman colonies Jupiter Juno and Minerva the Capitulum was, as it still is, a landmark in Ostia. Its superb bulk and rugged splendour make it a really inspiring edifice. Below are the ruins of the theatre whose foundation was laid in the time of Agrippa. It was later restored by Septimius Severus and Caracalla, builder of the famous baths in Rome (see page 497). This view looks into the auditorium behind the orchestra from behind the "scenae frons" (or stage).

Photo from Dr. Ashby



"STREET OF THE TIBER" RUNNING FROM THE "TEMPLE OF VULCAN" TO THE WHARVES
 From these photographs it is evident that the builders of ancient Rome had little to learn of town planning. Built with symmetry and precision, this street was lined on either side with "Horrea," which were warehouses and depots for the storage of foodstuffs. Brick is the material used in construction, the facing being picked out in bright colours. The upper picture is taken from the north end of the street and faces south towards the "Capitolium" while the lower is the same street taken from the opposite end.

Photos by permission of the Society for the Promotion of Roman Studies

opening upon a large rectangular area, in the centre of which stood a temple, perhaps dedicated to Ceres; while behind the colonnades in the other three sides were the offices of the various commercial corporations of Ostia itself—the weighers, the tanners, the boatmen, the measurers of grain—and of the shipping guilds of the provinces which were concerned in the importation of corn and other supplies—Provence, Sardinia, North Africa and Egypt. The mosaic pavements of the portico, and of the small rooms which open upon it, indicate clearly either by inscriptions actually giving the names, or by emblems, to which of these guilds each office belonged; and we thus have a hitherto unique business centre, in which the shipping agents who were responsible for the all-important duty of feeding the metropolis were centralised so as to be at all times under the direct control of the representatives of the government.

Close to the theatre are the baths, which are

only remarkable for the pavements in black and white mosaic with which some of the principal rooms are decorated—very spirited representations of sea deities riding on sea monsters, in which the vigour of the composition makes up for defects in detail. Adjacent is an unusually large open-air palaestra, where gymnastic exercises went on.

Behind the baths lies a large private house, which was turned into the barracks of the "Vigiles," a military force which performed the duties of both the police and the fire brigade of a modern town. Outside the main gate were some small drinking shops, and their presence explains how it was that many of the soldiers, shut out of their barracks at night, scratched their names on the doorposts. Within the most prominent part of the peristyle is the shrine of the Imperial House, with pedestals which once bore statues of successive rulers, to whom, as the mosaic pavement shows, a bull was periodically sacrificed.



WHERE THE ASHES OF ROME'S SHIPPERS WERE INCURNED

Dating from the first century B.C., these "Columbaria" are to be found in the "Street of the Tombs." They were chambers in the walls of which were niches as in a dovecot—hence the name "columbaria" (Latin: columba—a dove). The niches contained beautiful cinerary urns of white marble in which the cremated remains were placed. Poor people of the town who could not buy marble urns had to be content with earthenware jars built into the wall. Remains of many such jars are still in situ.

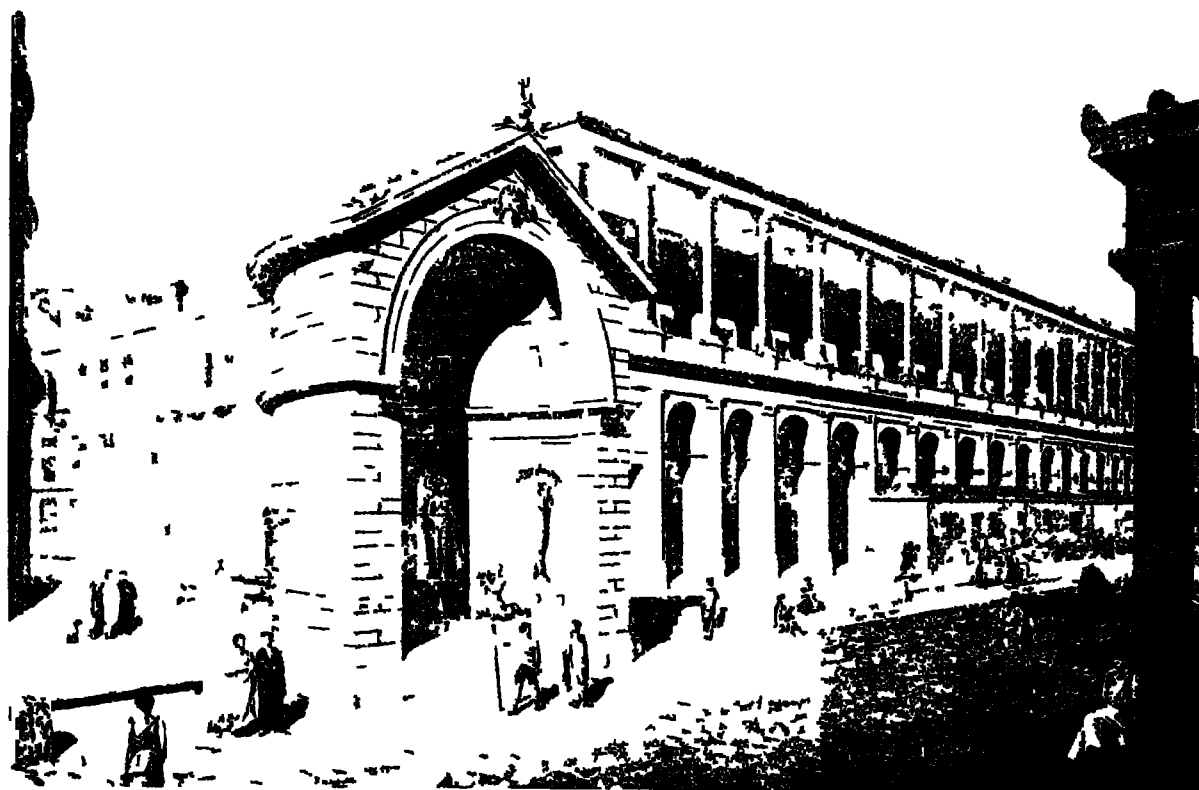
Photo by A. MARI

For the rest, that part of the city which has been uncovered consists mainly of extensive storehouses of varied plan. There is generally a central courtyard round which are disposed numerous chambers in two or more storeys in which grain and other objects were placed. In the grain stores there are air spaces under the floors, with holes under the thresholds to ensure proper circulation. There are numerous shops, of course along the streets (in one case grouped into a regular *butiar* round a courtyard) and we meet with an occasional drinking bar—one of which has a counter of coloured marbles, with a trough for washing below, a dresser with marble shelves for food, a wine cellar etc., giving an impression of extraordinary modernity.

The finest productions of art that Ostia has produced are the numerous sculptures in marble, many of which have long adorned the museums

of Europe but those that have recently been discovered need not fear comparison with those that are already known. A few examples may suffice: the splendid winged *Athene Nike* from the city gate (derived from an original of Greek art of the fourth century B.C.) a girl of the Julio-Claudian period in the character of *Artemis*, and *Sabina*, the wife of *Hadrian* as *Ceres*.

The several paintings on the other hand, are not nearly so interesting nor so important as those of Pompeii and are besides distinctly inferior to them in execution. But Ostia on an evening in spring, with its massive walls of concrete faced with brickwork which glow warm red in the setting sun lying near the winding *Tiber* in the centre of green fields with the pine forests of *Castel Fusano* close by, and the hills that encircle *Rome* in the farther distance, has a charm peculiarly its own. It gives a far greater impression of



MAGNIFICENT COLONNADES OF THE DECUMANUS, OSTIA'S PRINCIPAL STREET

Well made and broad to carry heavy traffic to and from the metropolis the Decumanus ran along the south side of the "Theatre" and thence out into the country to *Rome* between rows of houses and shops. It passed through the old "Roman Gate" and then became a street of "Columbaria" (see page 693) with tombs and sepulchral chambers on either side. The artist has restored in the foreground a porticoed fountain and the great buildings of the baths on its right with loggias on each floor. On the extreme left is seen the curving wall of the theatre where traders and shippers we may imagine, crowded on their leisure afternoons to forget awhile the endless task of feeding *Rome*.

After a reconstruction by Giovanni



strength and massiveness, too, than Pompeii, the houses of which are largely built of concrete faced with rough pieces of stone from which the once gaily painted plaster facing has been removed by the ravages of inexorable time.

To compare Ostia with Tilbury is true only as regards its function—that of the port in which ships discharge a part of their cargo before coming up the river. Its outward appearance was very different and Ostia, in this regard has nothing to fear from comparison with that in comparably dingy suburb. And yet in the days of Queen Elizabeth, when the Thames was really a silvery stream, the comparison may have been a good one.



ARCHES AND BALCONIES IN STURDY ROMAN BRICK

Upper picture: Balconied street front of a house in Ostia. The balcony is supported by pillars of brick on which rest brackets of stone. Notice the marble inlaid on the brick pillar. Lower picture: Court of a house showing the no-vacant-lararium—room in which the image of the Lar tutelary deity of the home was placed and where offerings were made to him.



MAIN STREET OF OSTIA AS IT IS LOOKING EAST

Seen from the upper part of the theatre this photograph shows in the foreground four remaining columns of the colonnade of the *Thermae*. Passing between rows of houses it is eventually flanked by sepulchral *Columbaria*. In the distance is the Castle of Giuliano della Rovere referred to in the text in page 685, built about 1500, to command the bend of the Tiber before it. But in 1557 the river's course was so altered that since then the castle has ceased to serve its purpose.

—except that the town of Ostia appears to have had a far greater relative importance. For a vast amount of business seems to have been done there and a large quantity of merchandise stored in its warehouses before being conveyed to Rome or elsewhere either by road or by the water route.

We know what we know of its ancient life much more from its ruins and from the contemporary inscriptions that have been found there than from anything that ancient writers tell us. The economic life of an ancient city, even of Rome itself, interested them not at all. They do not record the growth or fall of its population, the rise or fall in price of any single article of food

nor yet its daily and its yearly consumption.

All these things are largely a matter of conjecture still and we shall probably never know the answer to one tenth of the questions that we might wish to put. But a visit to Ostia will certainly stimulate us to thought on these and other questions and on the problem of the daily life of the great capital for the sake of which it existed—problems which, however remote they seem to us, were, despite the imperial corn doles that kept the poor alive and prevented them from grumbling aloud, just as real and as urgent to the Romans of the Empire as they are to the governments of today.



GREAT JARS THAT HELD THE CITY'S OIL SUPPLY

On the west of Ostia, beyond the city bounds are these so called oil stores which are divided into rooms containing oil jars. The one illustrated above has in it about twenty such "*dolia*," or storage jars. As the river washes past the walls and constant erosion goes on, these ruins are in a most precarious state. This building is divided by a passage which, according to some authorities, was once used as a thoroughfare, probably for servants of oil merchants coming and going to empty or to fill up the storage jars.

Photos by permission of the Society for the Promotion of Roman Studies

The Wonder Cities. XVIII.

Susa: the Eternal City of the East

By H. G. Spearing

Author of "The Childhood of Art"

SOME six or seven thousand years ago a tribe, whose name is still unknown, speaking a language of which we have no definite record, and coming from a region which has not yet been identified, wandered through the mountains with women and children until they came to an extensive plain not far from the head of the Persian Gulf. There they found numerous hillocks rising a few feet above the general level, thus affording good positions of defence against other tribes or wild animals from the surrounding gloomy forests. On some of these hillocks they fixed their homes, and on one especially well-situated mound they built a town and surrounded it with a substantial wall of unbaked bricks. From these humble beginnings arose the city of Susa—the Shushan of the Bible—a city which has a place among the very oldest in the world, for it flourished, with many strange vicissitudes, from about 4000 B.C. until about A.D. 650.

Far older than Rome, already hoary-headed when Babylon was still quite young, contemporary with Egyptian cities that disappeared before the time of Christ, it might well have claimed the title of "Eternal" if some fanatical followers of Mahomet had not illustrated the Christian saying: "Here we have no abiding city," by suddenly putting an end to its existence.

It may seem strange that one can write with confidence about a city which has been dead for nearly thirteen hundred years, but this confidence is due to the results of the modern methods of research which have been applied with such success to the huge mound that grew up on that lowly hillock until it towered some 80 or 90 feet above the plain and formed a fitting site for the fortresses of Cyrus and the Palace of Ahasuerus.

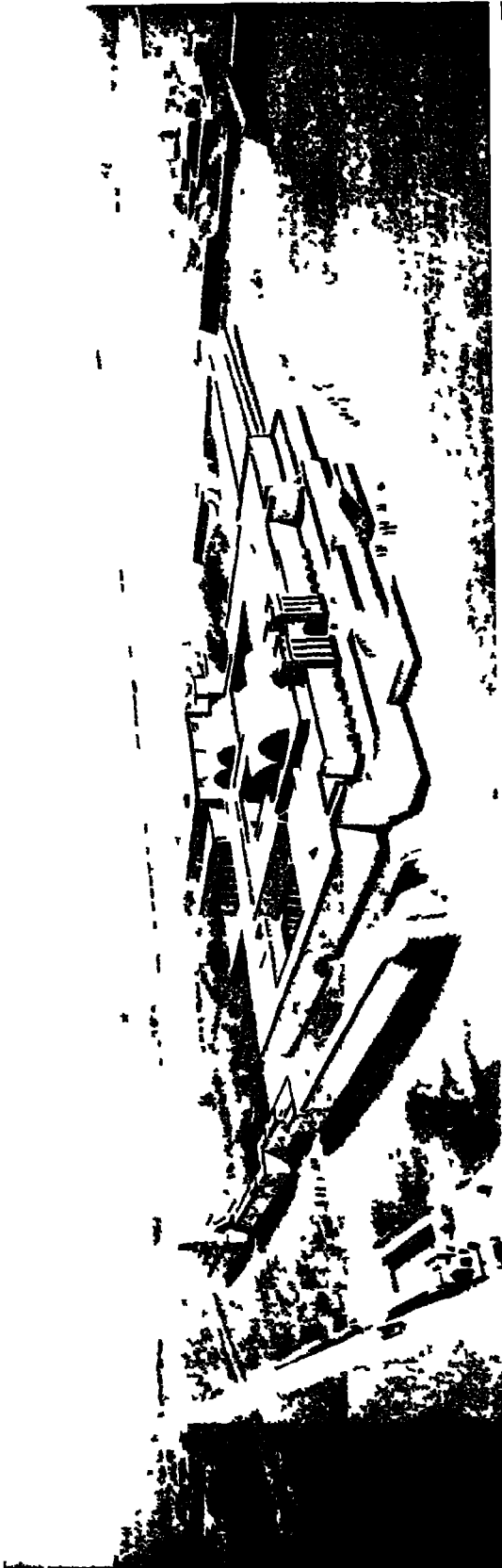
The older methods of research, even in the nineteenth century, were based chiefly on the desire to obtain interesting specimens for collectors of "curios"; sometimes even the keepers of museums, who ought to have known better, would encourage the spoliation of historical sites by ignorant fossickers, paying high prices for untabulated relics which were as useless for throwing light on the past history of those sites as isolated words, torn out of an ancient book,

would be for throwing light on the literary achievements of its period.

But now it is generally recognized that the position and surrounding objects of any valuable specimens are just as important as the relics themselves, therefore detailed plans and records are kept and the deposits carefully sifted so that every scrap of evidence may be preserved; for the trained archaeologist, like the detective of the novelist, will find important clues in apparently trivial objects. Among those trivial objects the highest place is now generally given to broken bits of pottery—they need not necessarily be broken, but an unbroken vase is rare, and however valuable it might be as a museum specimen, one vase might be like the proverbial swallow.

It is chiefly by the many thousand broken pieces of pottery found in the lowest deposits of the Susa mound that the story has been built up, bit by bit, of these unknown immigrants from an unknown land; something like the reconstruction of the unseen, lame, half-blind camel in "The Arabian Nights." This pottery is wonderfully hard and thin, not much thicker than a couple of postcards, and it rings like porcelain, though it is not so transparent. The forms are simple and graceful; they were produced on a rudimentary potter's wheel, used with a skill that was probably due to the inherited experience of many generations of craftsmen. Nearly all the bowls and vases were elaborately decorated either inside or outside with strange designs, most of which have no similarity with any designs found in other parts of the world, so that we have no clue to the country where these potters learned their art, though we can be fairly sure that they brought it from some centre of civilization where it had been undergoing a long period of development. For it is now admitted that ornamental designs in all countries and in all ages are not the chance product of the craftsman's brain—they have a regular evolution from the simple to the complex, most of the simple designs being evidently based on natural forms of men or animals.

There are other indications that the earliest colonists of Susa were well civilized before they left that unknown parent country, for in their



PALACE OF DARIUS AS IT WAS WHEN ESTHER LIVED AND AS IT IS TO-DAY

Susa, the Shushan of the Bible was the old capital of Persia the ancient Achæmenian Empire. These Darius I built himself the great Winter Palace or Apadana where we are told the fair Esther once charmed the heart of Artaxerxes I or Xerxes I with whichever the Biblical Ahaseuerus is to be identified. From the foundation we seen across plain lie the summit of the mountain M. Pillet has with great skill elaborated an imaginative but very view show in the top picture of the "Persian" Palace of Darius I. In the foreground is the southern entrance to the city facing towards the royal town, is yet another. Those open courts are visible of which the left hand one with its columns is restored in page 703

burial ground outside the city walls are found the bronze hatchets of the men, and the mirrors, the needles, and ointment vases of the women; there are also relics of delicate fabrics finely woven on a loom. The human remains in the graves have unfortunately been so crushed by the immense weight of the overlying deposits that have accumulated above them for forty centuries that it is impossible for ethnologists to decide whether they were members of the white, the black, or the yellow races. People became very interested over the finding of Tutankhamen's tomb, although its contents added relatively little to our knowledge of the origins or the development of civilization; how much more interesting would be the finding of the unknown home country of the colonists of Susa, the earliest artistic potters that have as yet given us an insight into the origins of their craft. There are no traces of inscriptions on any of their relics, so we cannot even guess what language they may have spoken. The community vanished as mysteriously as it arrived; a thick layer of charcoal and ashes being the only evidence of the catastrophe that overwhelmed them.

But the site continued to be occupied either by the survivors or by their supplanters, for fresh layers of unburnt bricks appear above the devastated town, and pottery of a coarser but somewhat similar type is found among these layers. Again and again at various levels are found other layers of charcoal and ashes testifying to the successive calamities that overtook the city, and a striking evidence of the energy of the mixed race that so continually rebuilt it. The long duration of the city may be due to the constant accession of fresh blood it received from surrounding nations, themselves not artistically deficient.

This energy made them very formidable to their neighbours, especially to those in the prosperous new cities that were growing up in the fertile plains of Chaldea. Eannatum, who ruled in the city of Lagash about five thousand years ago, and set up a monument recording his punitive raid on Susa, describes it as "the mountain that strikes terror." This is the first written mention we have of that already ancient city, but an earlier tradition about it has reached us through that wonderful "Epic of Gilgamesh" (Gilgamesh) the national hero of Chaldea. He is said to have attacked and slain Khumbaba, the King of Susa, shortly after the deluge! But here we enter the land of myth.

Many hundred years after Eannatum's time "Ur of the Chaldees" having acquired considerable power, annexed Susa, together with the surrounding country, called Elam, but in the course of another hundred years, Susa had regained its independence and conquered both Chaldea and Babylon. Art

and literature do not seem to have flourished in this "terror-striking mountain." Its inhabitants were too much occupied in that constant vendetta of raids and retaliations that still exhaust the energies of the human race. Their raids extended to an almost incredible distance, even as far as Palestine, for in Genesis xiv., Chedorlaomer, king of Elam, is mentioned as having subdued Sodom and Gomorrah and kept Lot a prisoner until he was rescued by Abraham.

They seem, however, to have had a more peaceful time for a few centuries after their expulsion from Babylonia (about four thousand years ago) by the great Hammurabi, who thus restrained them from further "glorious adventures" into the west. They probably benefited also by the irruption of an upland peasant race, the Cassites, who apparently introduced the use of horses, for then for the first time we find the horse mentioned in history. By degrees the Cassites assumed the leading rôle in Elam, and also dominated Babylon. Under their rule the city of Susa must have become extraordinarily rich, for bronze casting flourished exceedingly. One of their kings, Ountash Gal, who reigned a couple of centuries before the Jewish exodus from Egypt, caused a life-sized statue of his queen to be cast by the "cire perdue" process—i.e., modelled on a coating of wax afterwards melted out. As a work of art it is quite good, and as a piece of workmanship it presents the problem: how could they have poured into that six-foot mould the many hundredweight of bronze required to fill it? The love of gold seems also to have entered their hearts, for a letter on a clay tablet has been found in Egypt begging the "heroic king," Akhnaton, to send more of that incorruptible but still corrupting metal.

The power of the Cassites would seem to have gradually dwindled until in 1185 B.C. an Elamite king put an end to their rule in Babylon and carried off to Susa that precious monument, the Stele of Hammurabi, inscribed with the code of laws compiled by him, an invaluable document for historians and Bible students. It is now in the Louvre, but a good facsimile of it is to be seen in the British Museum.

Comparatively few specimens of real Elamite art have been found in all those layers of sand and mud that continually raised Susa higher and higher above the buried city of the original founders. Though stone was plentiful and accessible, the inhabitants copied the building system of stoneless Babylonia. They used sun-dried bricks even for their temples, and did not ornament the walls with sculpture as the Assyrians did.

The artistic tribe that founded Susa had probably

become submerged by a branch of that energetic and materialistic Semitic race that has at various times in the world's history poured out from Arabia like a lava flow, temporarily destroying the districts it flowed over, but ultimately often benefiting them by rendering them more fertile.

Perhaps that is the reason why the deposits of the middle age of Susa have yielded so few treasures to the explorer's spade, and why most of those treasures are the products of foreign cities raided by the Elamites. One large sandstone monument was taken by them from some city, probably Akkad, in Chaldea. It must have been especially interesting to them because it commemorates a raid made against Susa fourteen hundred years previously by the redoubtable Semitic ruler of Akkad, Naram Sin. I fancy that a purely Semitic people would have "broken down the carved work thereof," and hewn it in pieces, but the Elamites preserved this memorial of their own defeat and kept it in such good condition that, in spite of its great age and of all its rough adventures and wanderings, it is now one of the best low-relief specimens of Babylonian art in the Louvre Museum.

Two large terra-cotta lions made about three thousand years ago to guard the entrance to a temple are a remarkable example of local art. They are much better than the larger but more stilted and conventional winged lions that pleased the Assyrians of a much later period and inspired in still later times the sculptors of Susa to carve those great mythical monsters in high relief at the entrance of the palace of their Persian rulers. Traces of finely coloured glazing are still visible on the blocks of which they are composed. The art of making enameled tiles for architectural purposes seems to be in the blood of the Elamite population, for a specimen was found in the lowest deposits of Susa, and it is still one of the characteristic arts of Persia.

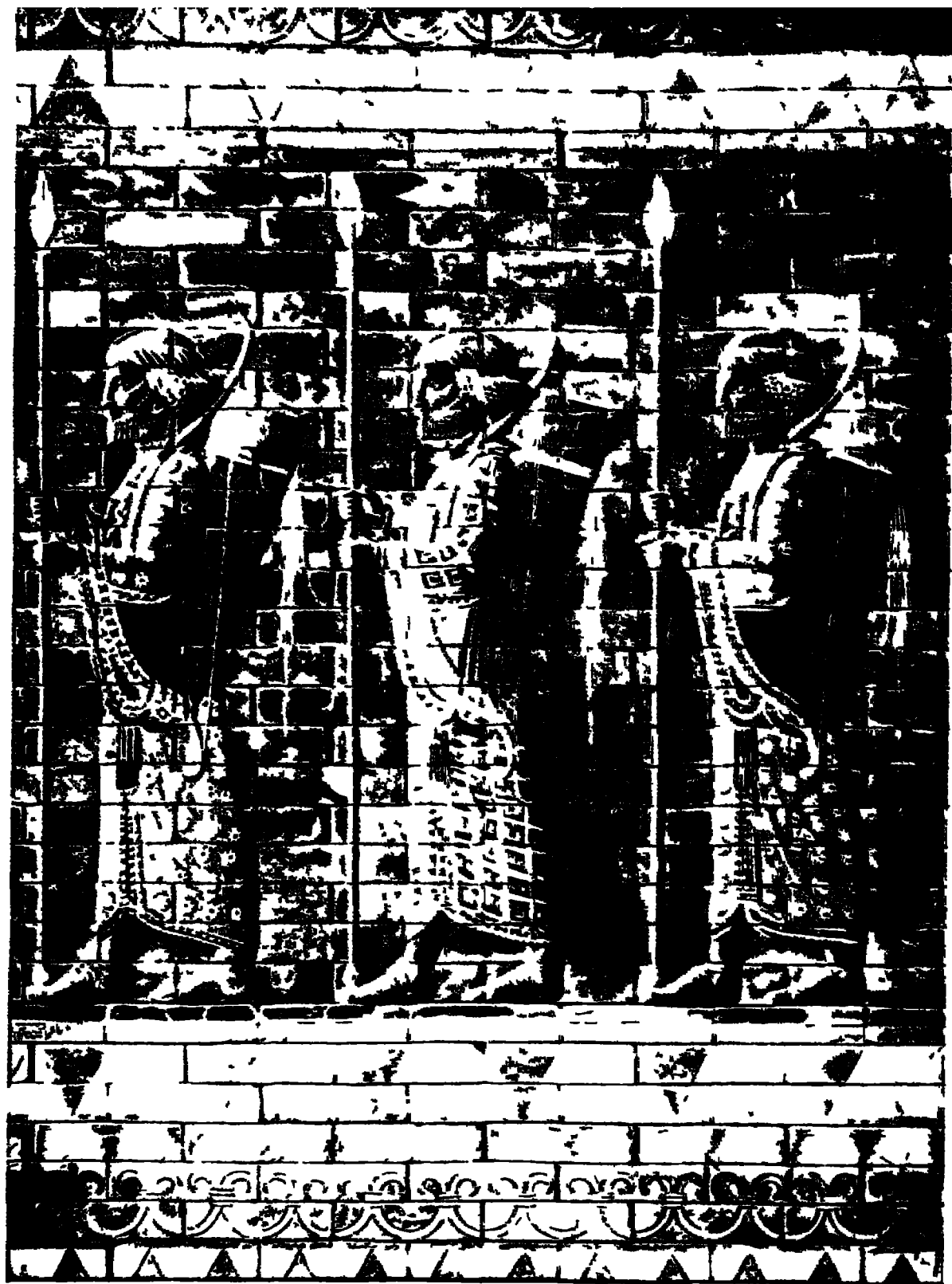
When further excavations have been made in these mounds sufficient relics may perhaps be found to fill up the great gaps in the history of Susa. It must have been a fairly flourishing city, for enormous amounts of building materials were carried up into it during those apparently uneventful centuries, so that the hills were raised to a height of 60 or 70 feet above the plain. Mention is often made in Assyrian and Babylonian records of the doings of the kings of Elam, and they seem to have been powerful enough occasionally to dominate Babylonia or to assist it in its constant struggles with Assyria. In the hope of neutralising such assistance Sennacherib constructed a fleet on the Euphrates and sent it across the head of the Persian Gulf to ravage Elam, but at the same

time the Elamites raided Mesopotamia and took Sennacherib's son prisoner.

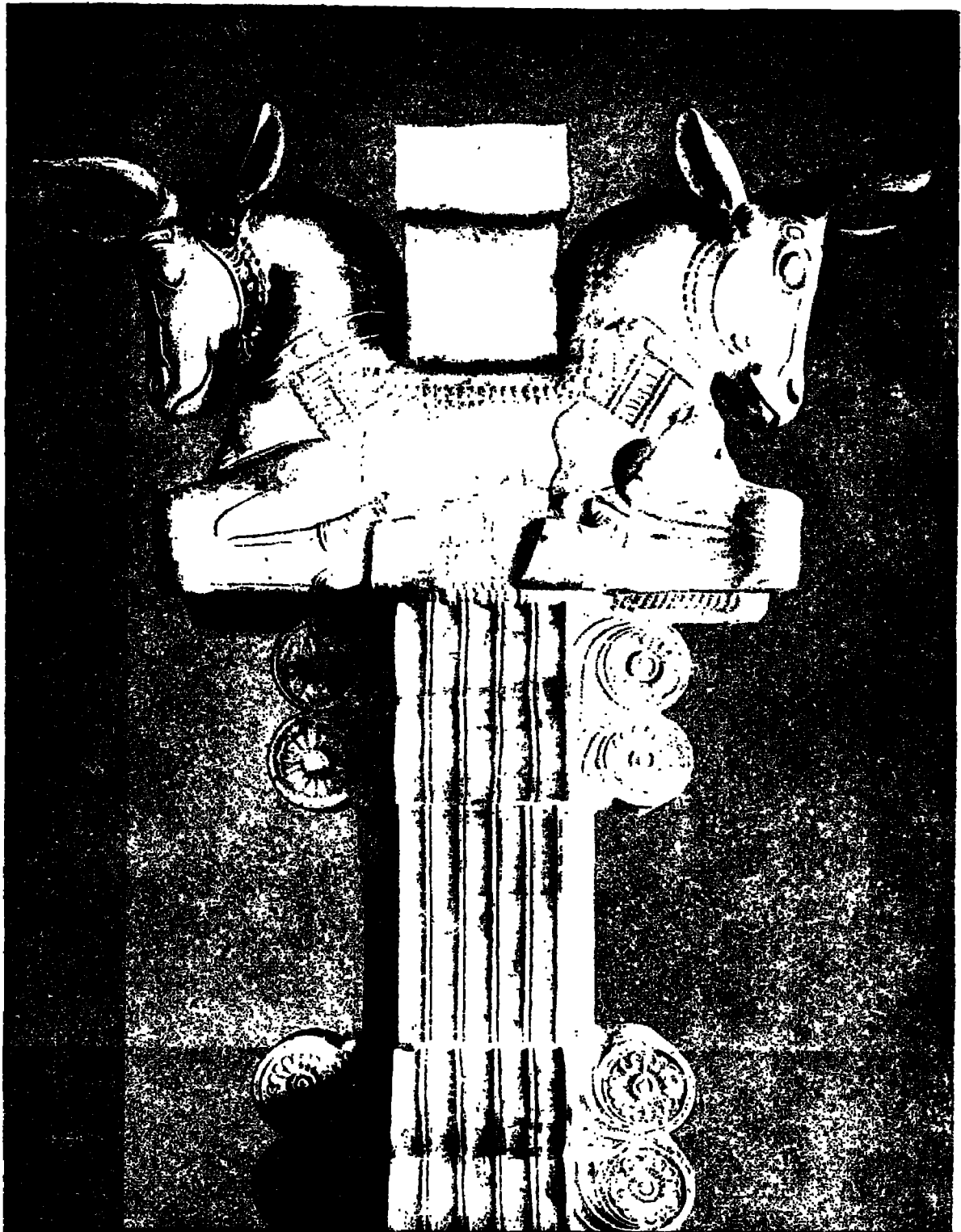
At last, in 640 B.C., Ashurbanipal, better known as Sardanapalus, who had completed the forging of the Assyrian nation into a vast military machine, decided to utilise it in suppressing Susa. His successes are recorded in the low reliefs made for his palace at Nineveh and now ranged on the walls of the British Museum. The Assyrian character is well shown by those which depict him feasting with his queen in a garden where the head of the King of Elam dangles before them on one of the trees. In his inscriptions he boasts of the ruthless slaughter and devastation he wrought in Susa, but that sort of empire is not generally very durable; thirty years later Nineveh—the "nouveau riche"—was laid waste and desolate for ever, while ancient Susa after a brief interval recovered its prosperity and under the rule of Persian Cyrus attained still greater wealth and splendour than ever before.

It is not quite clear why Cyrus should have chosen Susa as a site for his fortress after it had been so cruelly devastated by the Assyrians. Perhaps it was because of its position on the route from Persia to Mesopotamia and Asia Minor where he had recently obtained vast treasures by his victories over Babylon and Croesus, King of Lydia. Possibly it was also the chief *dépôt* of the north and south trade route between the Persian Gulf and the teeming regions round about the Caspian Sea. But in those days people were only dimly conscious of the power of commerce. Those who aimed at supremacy over their fellow men sought to gain it by the sword rather than by the more insidious force of commercial intrigues and manoeuvres. The sword, however, had for many centuries become more and more dependent on gold for its motive power, and the innovation of stamping gold into small and easily recognizable pieces rendered this motive power more transferable, thus enabling ambitious men to make more extensive and permanent conquests. The gold had to be stored in safe and convenient places; it was probably this consideration that impelled Cyrus to make Susa one of the strongest and richest storehouses in the then known world.

His encircling wall may be traced out at a level some 70 feet higher than the encircling wall of the unknown "proto-Elamites" on the virgin hillock. His wall is substantial, but of very simple design; the scientific plan of fortification which Dieulafoy in 1890 described in his "*Acropole de Suse*" has not been confirmed by more thorough investigation. Explorers were then and are even now too often disposed to exaggerate the strangeness of their discoveries, just as newspaper reporters are disposed



THE ARCHBISHOP OF FINLAND



COLUMN FROM THE WINTER PALACE OF THE PERSIAN KINGS AT SUSA

Albeit the most interesting of the remains which Susa has to offer us are probably the wonderful potsherds of its earliest inhabitants, most imposing undoubtedly are the ruins of the Apadana or Palace of Darius I. and Artaxerxes Mnemon. To outward view a shapeless mound like those of Assyria and Babylonia, it has nevertheless yielded to the excavations of Dieulafoy and others such gems of workmanship as this head of a column with its fluted shaft and twofold bulls' head capital.

The Louvre, Paris. Photo by Girardon

to lay unreasonable stress on the money value of objects found by these discoverers.

This castle of Susa is often mentioned in the Bible. The words actually used are "Shushan the Palace," but a note shows that it was also a castle. Cyrus must certainly have used it as a palace, but probably only in the winter when its climate is quite pleasant. In summer it is so hot that even scorpions were said to die if they attempted to cross a street during the noonday glare. Cyrus is reputed by Herodotus to have esteemed so highly the water of its river Choaspes that whenever he travelled he had cartloads of it carried in silver flagons for his use. He also took the precaution to have it boiled.

A more famous palace was the one erected by order of Darius when Susa was the centre of his vast empire stretching from the Indus to the Danube and the Nile.

It was probably in this palace that the great council was held by Xerxes to decide upon the invasion of Greece in order to crush that impudent little nation whose love of liberty was so incomprehensible to the Asiatic mind. In this palace, too, if we accept the identification of Ahasuerus as Xerxes, was laid the scene of the story of Esther. The details given there of the gorgeousness of the decorations have received indirect confirmation by the discoveries of Dieulafoy and others. The confirmation is indirect because it was found that the palace of Darius had been totally destroyed by fire. The extensive remains they succeeded in collecting were those of a palace built by Xerxes' son. The material was rich and the general impression must have been imposing, but it was a mongrel form of art—the uninspired elaboration by highly-paid craftsmen of the mean ideals of wealthy men who mistake luxury for beauty.

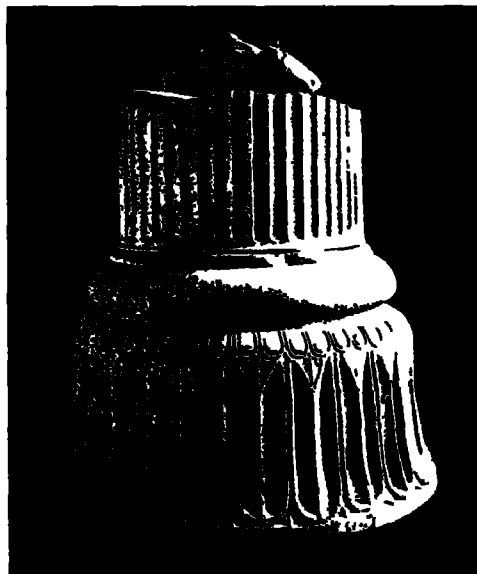
It foreshadows the early downfall of the once simple-minded Persian race whose chief ambition used to be to "ride well, shoot straight, and speak the truth." In less than a hundred and fifty years their empire was overthrown and a fresh adventurer, Alexander, pursuing the same ignoble ends of greed and domination, in his case tempered with a

desire to extend Hellenic culture, drove their incapable emperor to exile and assassination in the remote province of Bactria.

Immense treasures were found by Alexander at Susa, if substances like gold and silver and purple dyes which minister only to luxury and ostentation can truly be called treasures. It is said that twenty thousand mules and ten thousand camels were required to transport that part of the booty which Alexander decided to take away. Yet on the break-up of his empire a few years later immense sums were still found at Susa by one of the numerous adventurers who scrambled for his inheritance. Thus again began the vicious circle. Jealousy and greed split up the powers that had organized and controlled so many varied and antagonistic nations. Then out of the chaos emerged a simple nomad folk, the Parthians, whose history is told elsewhere in this work, destined in the course of time to rule the western Asiatic world and to defy and defeat the fearful power of Rome. The history of Susa again becomes almost a blank, but it must have retained some of its former importance for in A.D. 100 bronze coins were minted there and a new palace was built. Then the Roman Emperor Trajan avenged the death of Crassus and the defeat of Mark Antony by driving the Parthian king from Ctesiphon to Susa, for by this time the Parthians had become luxurious and their kings used golden thrones, tempting their enemies to overthrow them. Thus

still went on the eternal see-saw of raids and retaliations. In A.D. 216 the Parthians defeated the Romans and made them pay two millions sterling.

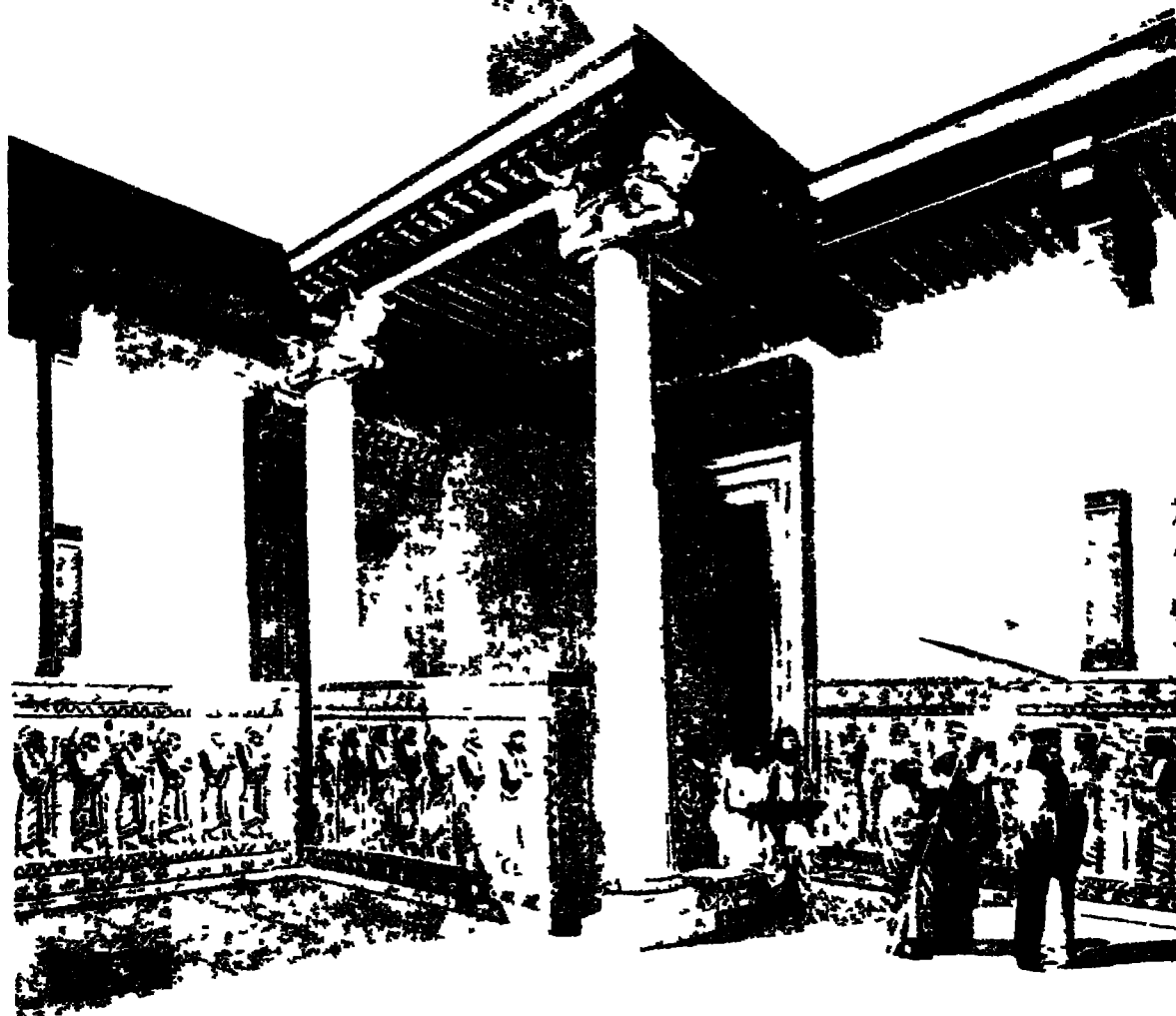
Under the Parthians and their successors, the Sassanians, Susa seems to have lost its importance altogether, although it remained a flourishing city. It is possible further excavations may reveal the part it played in helping the Sassanians to defeat in A.D. 260 the Roman Emperor Valerian, but perhaps it had little share in these struggles. Although its own history had been a tempestuous one, it may in its old age have temporarily afforded an example for those cynics who say "happy are the people who have no history."



BASE OF A PILLAR FROM SUSA

From the Apadana. Besides the column capital illustrated in page 701, comes also this massive base belonging to a similar column; for the disposition of these soaring shafts in the building consult the restoration in page 703.

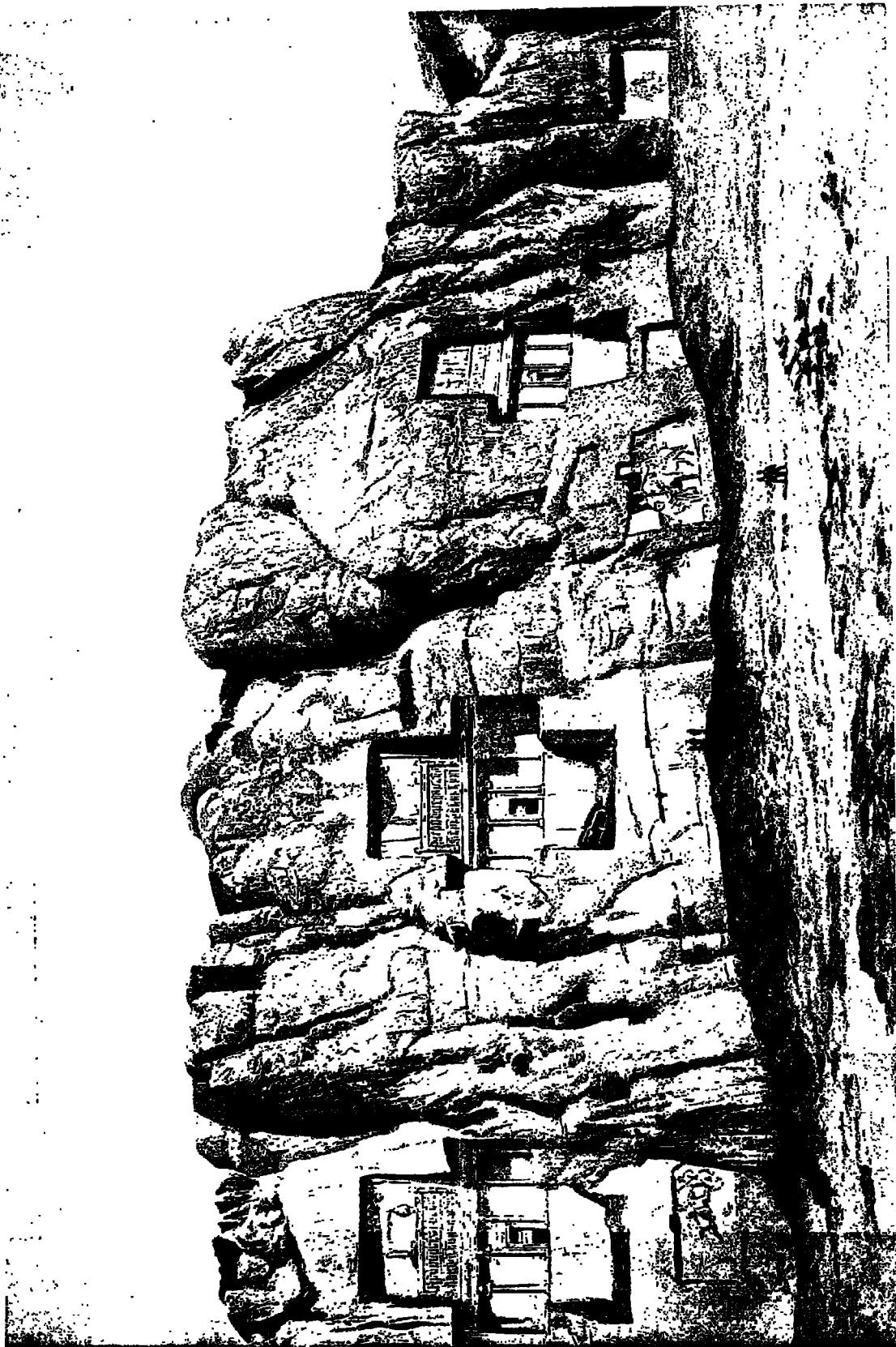
The Louvre, Paris. From the Dieulafoy Mission
Photo by Giraudon



KING DARIUS WITH HIS COURTIER IN THE PRIVATE COURT OF HIS PALACE

This reconstruction by M. Pillet of a court in the temple of Darius at Susa is one that may be offered with more confidence than many being based on excellent evidence. The ground plan and column bases are extant portions of the clay tablets which remain to show that they formed a frieze similar to the one shown in the colour plate facing page 700 of the column capital. We possess examples (see page 701) while the timber roofing of the loggia is illustrated on the frieze of a column at Persepolis where exactly the same architectural styles prevailed. The court is the left hand wall of the bird's eye view in page 698.

After a drawing in "Le Palais de Darius à Susa" by M. L. Pillet.



MAJESTIC TOMBS OF DARIUS AND HIS LINE, SET HIGH IN THE DESERT ROCK

At first sight but great crosses deeply recessed in the rock, gazing over the plain to the long silent ruins of Persepolis, these magnificent sepulchres reveal on closer inspection a wealth of detail. The bases are about 30 feet from the ground and their top branches tower 200 feet up the cliff; flanked by the lateral limbs, each 35 feet in length, the central ledge at their foot is occupied by four pillars crowned by bull-headed capitals supporting a great moulding and the symbolic frieze described in the text. Three of the four tombs whose identification is incontrovertible is the one on the extreme right, which we know by its cuneiform inscription to be that of Darius I.; the others contained the bodies of Xerxes, Artabanus, and Darius II., but in what sequence is not known.

Records of the Tombs. VII.

Tombs & Sculptures of Nakshi Rustam

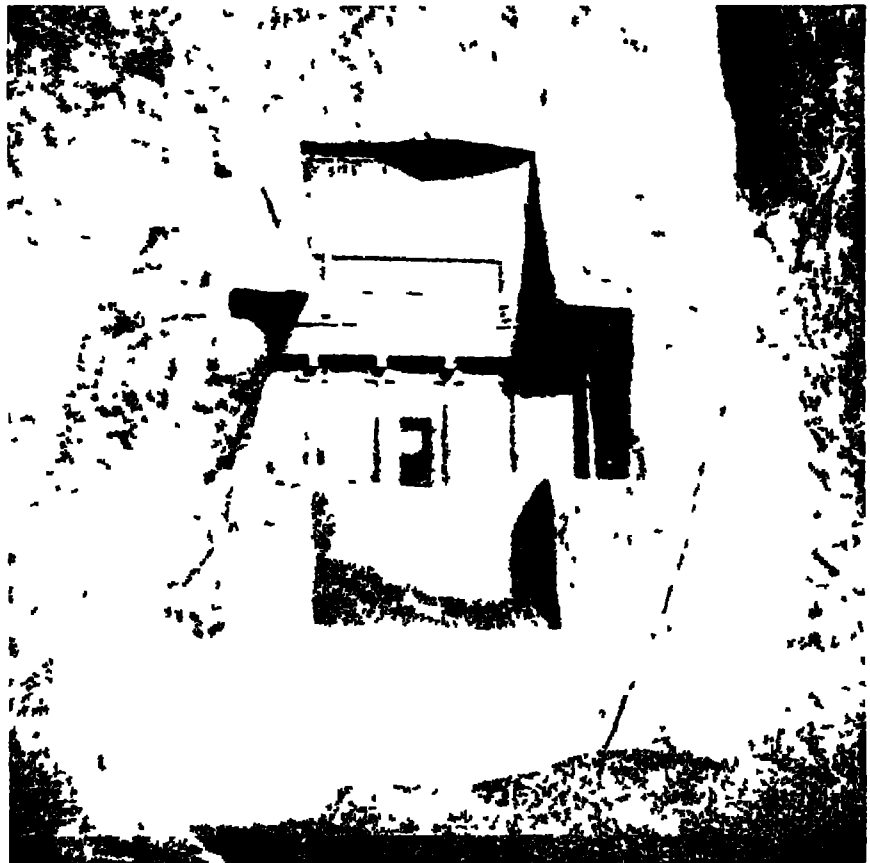
By Reuben Levy, M.A.

Lecturer in Persian in the University of Cambridge

As one rides along the valley north-west from Persepolis, amidst wild and rocky scenery, there appears carved in the high mountain wall, about ten miles from that ancient city, a series of four huge crosses cut deep in the rock. These, with the sculptures carved under them, are known to the Persians as Nakshi Rustam, or "The Picture of Rustam," from the fact that the inhabitants of the country saw illustrated in the figures incidents from the life of that mythical hero, who, in a feigned name, met his son Sohrab in battle and slew him, a story well known from Matthew Arnold's poem "Sohrab and Rustum." We now know from an inscription on one of the tombs that it is that of Darius Hystaspes, the other three being those of the three succeeding members of his dynasty, the Achaemenid, that ruled ancient Persia from 558 to 331 B.C.

Near approach to the tombs shows them to be cut out high up in the face of the almost perpendicular cliff. Each is in the shape of an upright cross, with a disproportionately broad transverse section set across the middle of the upright and about a third of it in width. The total height of each—and they are all practically identical in outside appearance—is roughly 74 feet while the transverse part is over 57 feet long. Glancing up at one of the crosses one sees that the lowest limb is a smooth surface left un-inscribed, with the bottom forming a kind of giant's bench. The middle section

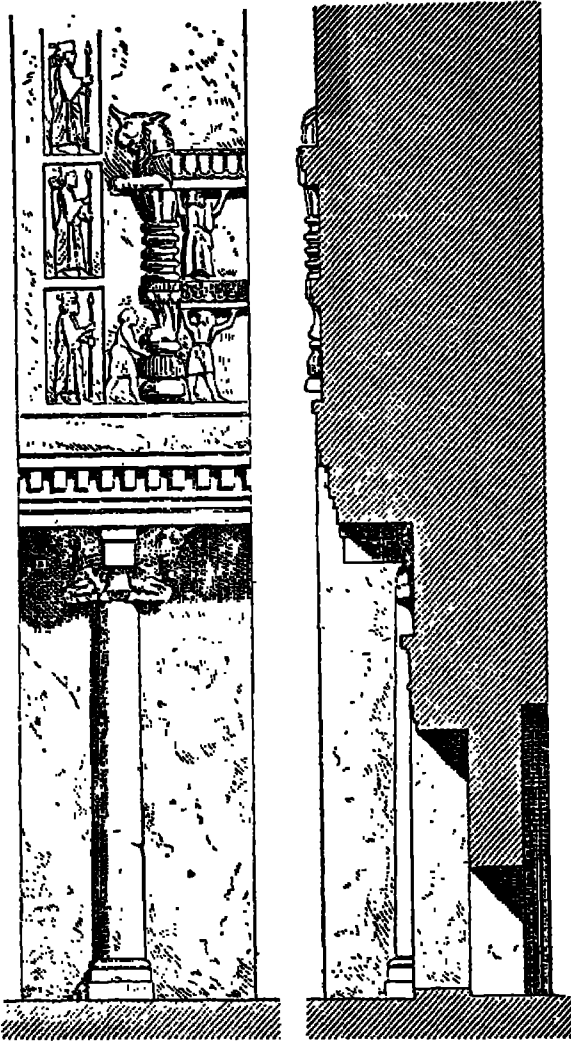
of the cross, which passes over this lower limb, looks like the facade of a palace with a pillared colonnade all sculptured out of the living rock. A lofty doorway is carved in the middle of it but there is no door: the upper part being blocked by a solid mass of rock and there is only a low aperture at the bottom where someone has broken into the tomb. On each side of this doorway are two round pillars cut from the rock, but attached at the back. They are set about 7 feet apart, with the end ones about the same distance from each of the outer walls and



TOMB OF A PERSIAN KING DEEP-SET IN MERV DASHT ROCK

High above the ground, mysterious and inaccessible, the four rock crosses are not the least of the wonders of the Persepolis country. Legend connects them and the reliefs below them with the mythical heroes Sohrab and Rustam, hence the name Nakshi Rustam (the picture of Rustam). They are, in fact, the tombs of Darius and his successors Xerxes, Artabanus and Darius II.

Pl. 12 by F. of Crawley Williams



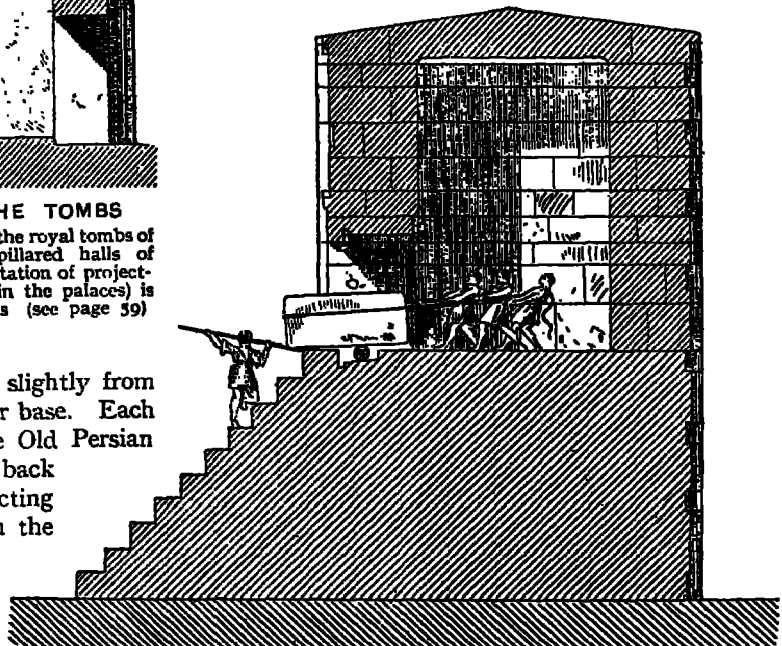
ARCHITECTURAL DETAIL OF THE TOMBS

This elevation and transverse section of one of the royal tombs of Nakshi Rustam clearly shows how the pillared halls of Persepolis were constructed. The rock-cut imitation of projecting architrave and beams (of cedar wood in the palaces) is supported by the familiar bull-headed columns (see page 59)

From plans by Flandin and Coste

they rest upon plinths that project slightly from the very narrow platform that is their base. Each pillar is crowned with the favourite Old Persian ornament of two bulls' heads placed back to back and with a single horn projecting from the forehead of each. Between the bulls' necks is placed a square stone upon which rest two others. These additional capitals support what, in a building, would be the architrave, or main beam supporting the roof, but which here is a long piece of carving cut out of the rock. There is no stairway or ramp up

to the tomb, and indeed it was intended by the smoothing of the lower limb of the cross to make entrance to the tomb impossible without special apparatus. We are told by the historian Diodorus, in his description of some tombs similar to these, that there were avenues to them, and that some form of hoist or other apparatus was devised to haul up corpses and deposit them in the rock chambers. Another historian, Ctesias, relates with regard to the making of the tombs that Darius Hystaspes had his own tomb dug during his lifetime. When it was completed, and he wished to inspect the work done, the Chaldean soothsayers informed him that some terrible misfortune would overtake him if he entered the tomb while he was still alive. This prevented the king from seeing where he was to lie, but some princes of his family, who were overwhelmed with curiosity and were not to be deterred from seeing the inside of the tomb, ventured out to the mountain and had themselves drawn up by the Zoroastrian priests whose altars were near there. While they were in mid air some serpents appeared on the rock and so terrified the priests that they let go the ropes they were holding, and the princes were dashed to pieces. To any subject of the Achaemenid king passing by, the sight of the tomb high up and inaccessible to him must have had the effect of adding to the awe and reverence he already felt for the reigning dynasty.



STRANGE TOWER KNOWN AS "ZOROASTER'S KA'BA"

This restoration section of the square funerary tower of Nakshi Rustam has been constructed to show the purpose of the building. In the threshold slab are two parallel slides on an inclined plane, in which rollers were placed to facilitate the introduction of the stone sarcophagus.

After section by Dieulafoy



ARDASHIR RECEIVES THE BENEDICTION OF AURAMAZDA

Not only for its tombs is Nakshi Rostam a place of profound archaeological interest, for there, too, are seven great reliefs cut in the rock by Ardashir Babakan and his successors in the Sassanid line many centuries after the Achaemenids. This, the westernmost relief, depicts a symbolic episode in the life of King Ardashir, who reigned from 212 till 241. The god Auramazda (right) extends to Ardashir the emblem of his kingship; the king's horse tramples under foot the Parthian foe Artabanus, and the god triumphs over the prostrate Ahriman, spirit of evil. In contrast to the horses of warlike scenes, these animals are crude and lifeless.

Photo by Elliot Crawshaw-Williams



PERSIA'S TRIUMPH IS ROME'S ABASEMENT

To the west of the tombs of Darius and of Xerxes is found this Sassanian relief. When, in A.D. 260, the Roman Emperor Valerian led his expedition into Syria, his army was routed and he himself captured by the Persian King Sapor who here celebrates his triumph. The exultant king advances towards Valerian, who is shown kneeling in an attitude of pleading subjection before the royal charger, and in lofty scorn Sapor grants to the standing Cyriadis a boon refused to Caesar.

Photo by Elliot Crawshaw-Williams

Modern travellers, such as Sir R. Ker Porter, have gained access to the tombs, using stout ropes carried up by natives of surrounding villages who climbed up the crevices made in the rocks by treasure seekers and others; but superstitious fear generally keeps the Persian from entering the tombs. Each of these, when entered by the aperture in the doorway, is found to be a narrow chamber running along behind the transverse section of the outside cross and corresponding to it in height and length. In the side opposite the doorway are found a number of deep cavities cut in the rock for the reception of the royal bodies or coffins, and at a height of about 3 feet from the ground level. In none of them have any remains or relics of burial ever been found and it is more than probable that they were long ago ransacked by thieves, in spite of the heavy lids of stone which still cover some of them even now.

When one descends again to the ground and looks up to the topmost limb of the cross, one may see sculptured the picture of a religious ceremony. On the face of the upper section of the cross, above the front of the tomb, is carved the figure (about

8 feet high) of Darius—some say of a priest—in a long robe and tiara, standing on his throne. He is in the act of worshipping before an altar where the sacred fire is burning. Between him and the altar there floats the emblem of Auramazda (Ahura Mazda) borne on wings and with a representation of the sun behind it. The throne and the altar rest upon a beautifully carved frieze which is shown as a kind of platform resting upon the heads and upstretched arms of a row of fourteen figures about 5 feet high. These represent the various peoples of the empire, and they in their turn stand upon a similar frieze resting upon another row of fourteen figures of the same dimensions and of like significance. Two strangely carved columns each surmounted by the head of a unicorn-bull form supports for this double platform, and the whole of the sculpture has a frame cut round it in the rock.

One of the tombs—that of Darius—has a long inscription in the cuneiform character of three languages—Persian, Elamite and Babylonian. This covers a great part of the available space in the upper part of the cross and also a good deal of the space between the pillars.

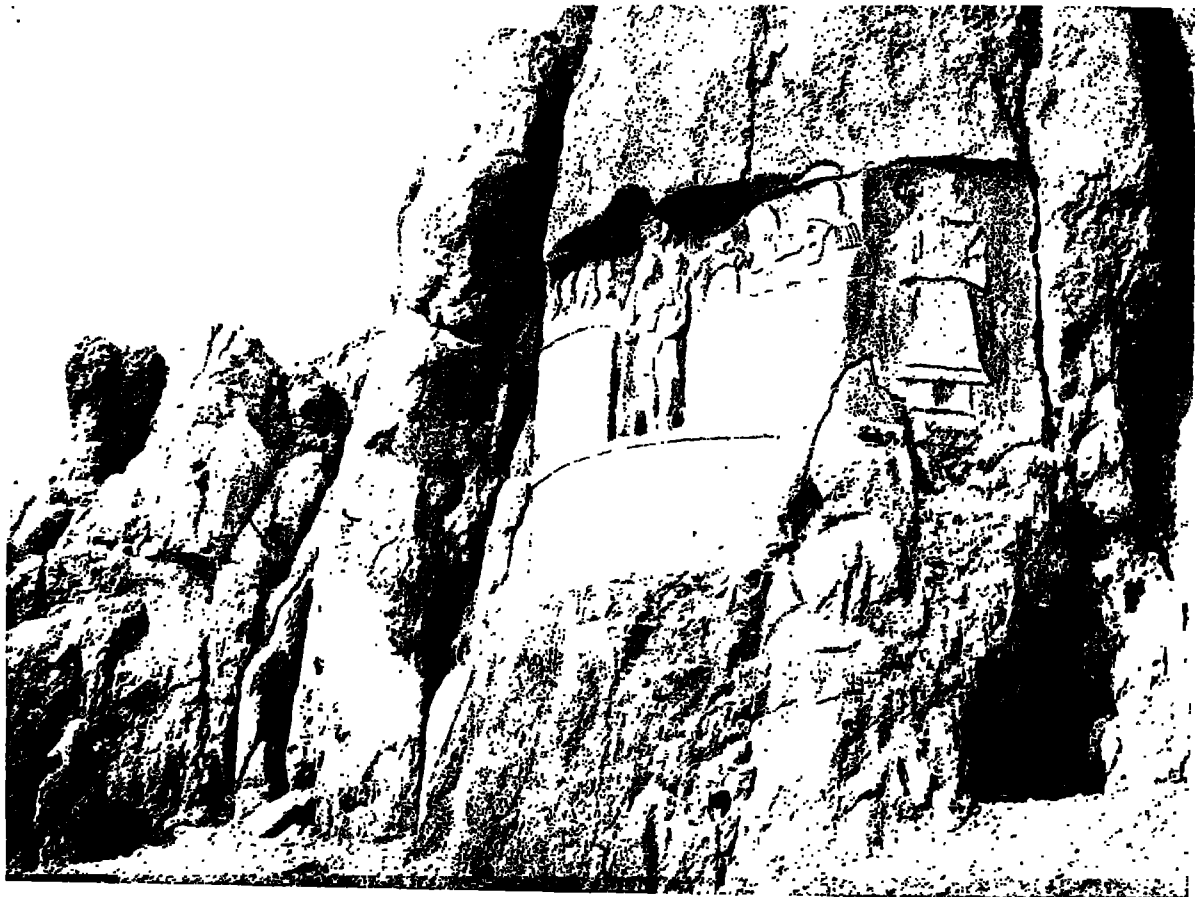
standing with arms outstretched in a posture of submission. The other captive, who is the Roman Emperor, is kneeling before the Shah with hands extended as though in appeal.

Behind the king stands a tall figure with a beardless face, probably a eunuch, sternly holding up a hand to enjoin silence. Upon his head he wears a kind of mitre with flowing bands behind, and there can be little doubt that it represents a tall hat of felt of the kind now commonly worn by many Persian tribesmen.

Three others of the seven sculptures represent, in spirited fashion, the figure of the famous king Bahram Gur, the "Great Hunter" in combat with a Tartar chief. Still another of the seven tablets is accompanied by an inscription in Greek and Pehlevi, or middle Persian. It represents Auramazda, the Zoroastrian god of good, investing Ardashir (Artaxerxes) Babakan, the first Sassanian king, with the "cydaris," or ancient emblem of

kingship. The victory of both god and king is indicated, for Ardashir reinstated the religion of Auramazda which had for long been ousted by the foreign faith of the Parthians, and this is represented by a figure prostrate on the ground under the feet of the god's horse. The figure which Ardashir's horse tramples under foot pictures Ardawan, the last of the Parthian dynasty, whom the king overthrew, thus placing a Persian sovereign once more upon the throne of Persia after five centuries of foreign rule. Of the remaining bas-reliefs some are practically indistinguishable, while the rest are of little importance.

Two Zoroastrian altars and their platform, cut out of one piece of rock, and a very solidly-built square building, which the inhabitants of neighbouring villages call "Zoroaster's Ka'ba" and which may be another tomb, complete the number of notable antiquities included by the Persians under the name Nakshi Rustam.



LEVEE OF AN OLD-TIME KING OF PERSIA

Among the less pretentious of the Nakshi Rustam reliefs is this, the sixth counting from the tomb of Darius II, at the eastern end. Lord Curzon, whose knowledge of Persian archaeology was profound, said that the sculptures represent Bahram II, as the full-length central figure among his courtiers who stand behind barriers, but other authorities maintain that the frieze is unfinished, having been worked from the top downwards, and the lower parts of the minor figures unworked as yet. The oblong blank space underneath, obviously meant for an inscription, certainly supports this theory.

Photo by Elise Crawshaw-Williams

The Royal Palaces. VII.

The Palace of Minos at Cnossus

By Arthur H. Smith, C.B., M.A., F.S.A.

Keeper of the Greek and Roman Antiquities at the British Museum 1909-25

IT is only necessary to look at a map of the Mediterranean to see that the island of Crete must always have occupied a commanding position intermediate between Egypt and Greece. It has a similar position in Greek literature and legend.

To the Greeks it had something of the age and majesty of Egypt. It was the home of their deities. Zeus was born and nourished on the Cretan mountains. He brought one of his many loves, Europa, across the sea to Crete. He even died and was buried there. So, at least, it was averred by the Cretans, though this was what moved Callimachus (quoted 300 years after by St. Paul) to denounce the Cretans as liars.

The Crete of legend was the home of a great monarchy. It was rich in its ninety cities, its ships, and its thronging population. It was the source of early industry. The Dactyls, or Finger-men, of the Cretan Ida, and the Telchines invented the working in iron and bronze. Daedalus, the typical craftsman, there first practised aviation, with fatal results to his son, Icarus, through fusing of his wings in the sun's rays.

Talos, the animated man of brass, patrolled the island thrice a day. And here his master, Minos, in communion with Zeus, like Moses on Sinai, produced a code of laws.

It should be noted in passing that Plato's Socrates reduces Talos to a travelling inspector, who visited the villages from time to time to see that they conformed to the laws of Minos, which he carried with him on tablets of bronze.

When archaeologists began to cast about for the missing links between the culture of Egypt and the new civilization which the spade of Schliemann had brought to light at Mycenae, it was

natural that they should look to Crete as the most promising site for investigation. Their investigations began when political conditions made excavation possible. Sir Arthur Evans was the moving spirit.

From 1893 onwards Sir Arthur Evans travelled through the island, collecting engraved stones from the peasants. Those found in Crete are often of a milky-looking substance, and are worn by the peasant women as conducive to lactation. From his study of this material he was able to announce to the Hellenic Society, in November, 1893, that he had discovered a hitherto unsuspected form of hieroglyphic—or, as he preferred to call it, pictographic—writing, expressing an unknown language. Also, at an early stage, with admirable foresight, he acquired the soil of Cnossus. He was able, therefore, at the appropriate moment, to begin the famous excavations which are the subject of this chapter.

The Palace of Cnossus was the legendary seat of Minos, and the home of the monstrous Minotaur—half man and half bull—to whom the Athenians of old sent at stated intervals a tribute of youths and maidens, until the beast was slain by the Attic hero, Theseus.

The site is a rounded spur of a hill, nearly four miles from Candia and the sea, about the middle of the north coast of Crete. On the north and north-west the knoll is hardly distinguishable from the Kephala hill, of which it forms a part. On

the east side the ground falls sharply to the bed of a small stream which finds its way to the sea a little to the east of Candia.

The main excavations of Sir Arthur Evans were carried on here, during the years 1900-1908. In the course of them, and various supplementary campaigns, he brought to light an unsuspected



MAMMOTH EARTHENWARE JARS FOUND IN THE RUINS

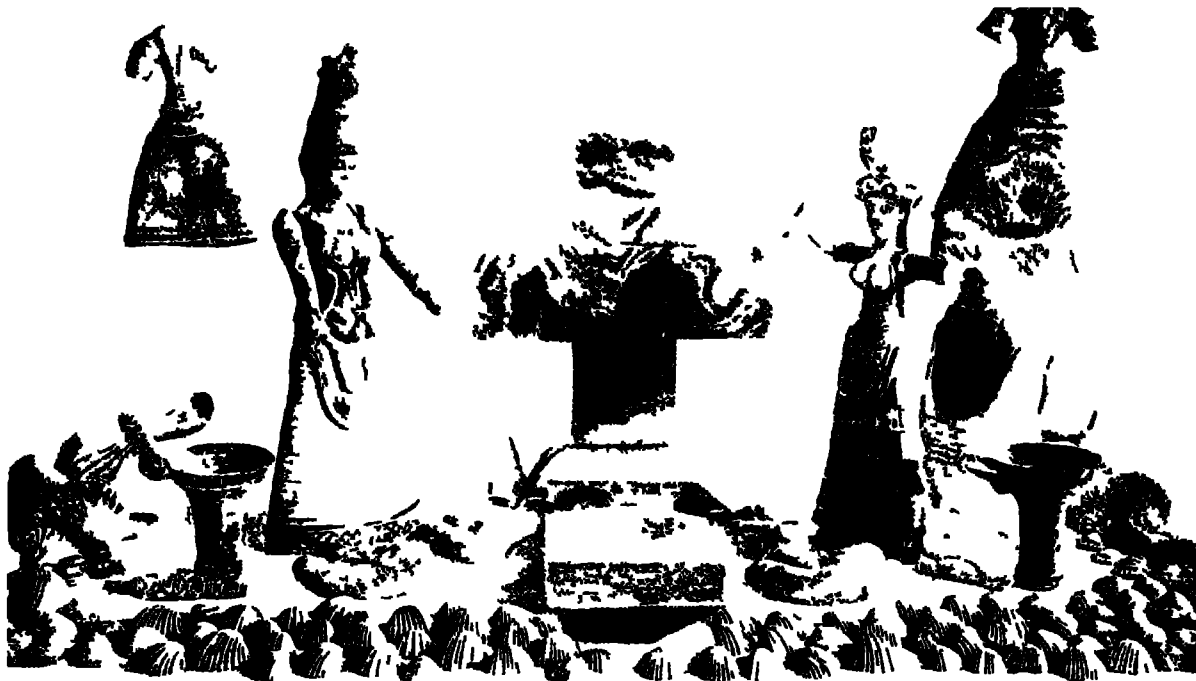


WHERE THESEUS, THE GREAT HERO OF GREEK MYTHOLOGY, ACCORDING TO THE LEGEND, SLEW THE MINOTAUR
 In the Palace, or "Labyrinth" of Minos, at Cnossus, in Crete. A long corridor passes down the middle of the western block of the building, and a series of narrow chambers opens into it. These chambers, designed as magazines, contain a large number of sunken stone receptacles and rows of immense earthenware jars. Two such jars are shown above, each would conceal one of the Forty Thieves with ease. Nothing has been found in any of them, though traces of gold leaf suggest that they were once used for storing precious objects.
 From a photograph in "The Cyclades in Crete" by courtesy of Messrs. J. & J. Bouverton at the (over)



THE OLDEST THRONE IN THE WORLD AS IT STANDS IN THE GREATEST PALACE OF ANCIENT TIMES THAT MODERN EYES CAN SEE

The Throne of Nimrod, a chair of the type emblematic of supreme power, since erected by the British Museum, is built into the wall of the palace at Nimrod, and it is clear that the hands of men A. east of the chair may be seen in the British Museum. Since built by the British Museum, the sides of the throne and the walls are decorated with frescoes of seated groups of men in a Nile land, the water of the Nile.



SHRINE OF THE SNAKE GODDESS RESTORATION OF THE GROUP ABOVE THE ALTAR LEDGE

The tall cross which occupies the central position is the most striking object in this group as restored by Sir Arthur Evans who writes: "The tall cross is not only a religious symbol of Minoan cult but seems to be traceable in later effluents of the Minoan from Gaza to Lima." To the left of the cross stands the Snake Goddess; to the right her attendant. The latter holds in her hand a libation jug, the body of which is hollowed for holding offerings and numerous shells. The central figure is a seated female figure, to the left of her a small figure, possibly a child, and to the right a small figure, possibly a child. The group is set on a base of sea shells and pebbles.

Placed up from Sir Arthur Evans's Palace of Minos

civilization to which he gave the name of Minoan. This is a convenient term which has been generally accepted, since it does not commit those who use it to anything except a recognition of the unquestionable fact that Minos is the principal personage who can be named in connection with prehistoric Crete.

Other excavators—English, Italian, and American—have corroborated and completed the Cnossian discoveries with important finds on other sites. The palace of Cnossus, however, continues to be the most important architectural monument of the island.

By minute observations of the stratas Sir Arthur Evans has constructed a scheme of Minoan art and history. He divides it into three great periods—Early, Middle, and Late Minoan. Each of these is subdivided into three. Thus, if the reader meets with a date given as MM3,

he must interpret it as meaning the third division of the Middle Minoan period.

Roughly speaking, Early Minoan runs from 3600 to 2100 B.C., Middle Minoan from 2100 to 1600 B.C., and Late Minoan from 1600 to 1200 B.C.

The main fabric of the palace is of the Middle Minoan age. It is built on a site which had been for a very long time—fifteen hundred years at least—in neolithic occupation. It includes work of the Early Minoan period. It also bears unmistakable traces of later alterations, and of catastrophic changes from time to time, such as fire, earthquake, and sack. For such complex questions the reader must consult the monumental and fascinating work of Sir Arthur Evans, "The Palace of Minos," (Macmillan, 3 vols.)

The palace is roughly a



THE SLAYING OF THE MINOTAUR

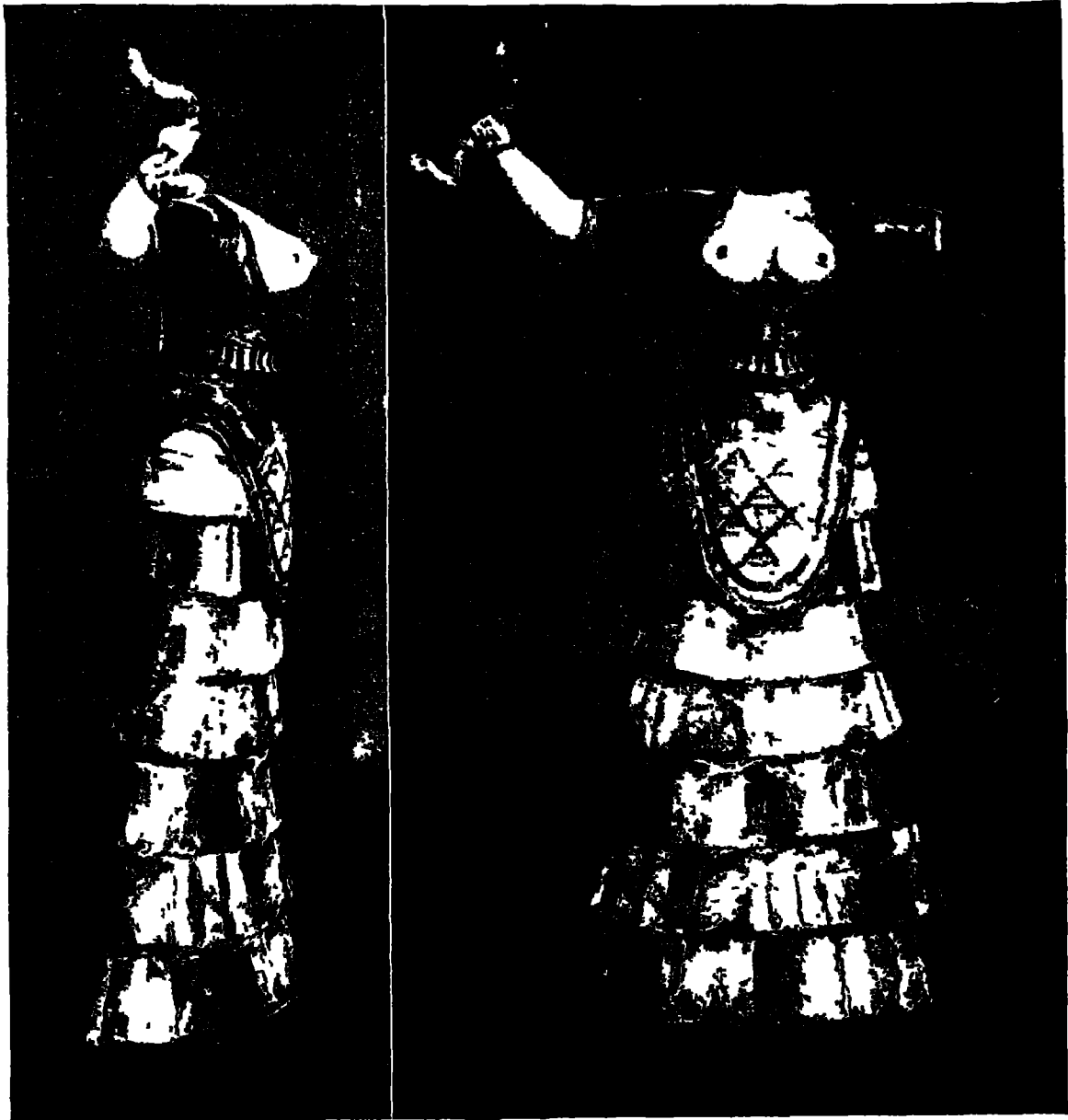
Cnossus was the earliest home of bull fighting, even women engaged in the sport, which was probably the origin of the legend of the Minotaur, slain eventually by Theseus, the Greek hero.

Modern sculpture by G. Bazay at the Louvre, Paris.

square block, measuring about 150 yards each way. We will enter by the northern entrance. This is a narrow passage between powerful walls, and flanked by bastions. Immediately outside the gate, and within the circuit of the outer works was the Hall of Eleven Pillars. It is represented by the bases of eleven square piers. They were evidently rooted over and

made a pleasant portico where business could be transacted by those who "sat at the gate."

Entering the palace by the northern gateway, we pass into a spacious paved court 107 feet from north to south and 95 feet from east to west. About this central court all the main buildings of the palace were grouped. On the west side of it, the buildings appear to have been



A STRIKING RELIC OF SNAKE WORSHIP IN CRETE DURING THE MINOAN AGE

This dainty faience figure does not represent the Snake Goddess herself, but her votary or priestess. In her right hand the votary carries a small snake, tail upwards, and the left hand, which is missing, probably held another reptile in a similar position. Over her many flounced skirt she wears a double apion, a ritualistic survival of a primitive garment once common to both sexes. Generally, the votary's costume may be regarded as characteristic of feminine fashion in Minoan Crete. Fashions, it would seem, have not changed very materially during the centuries.

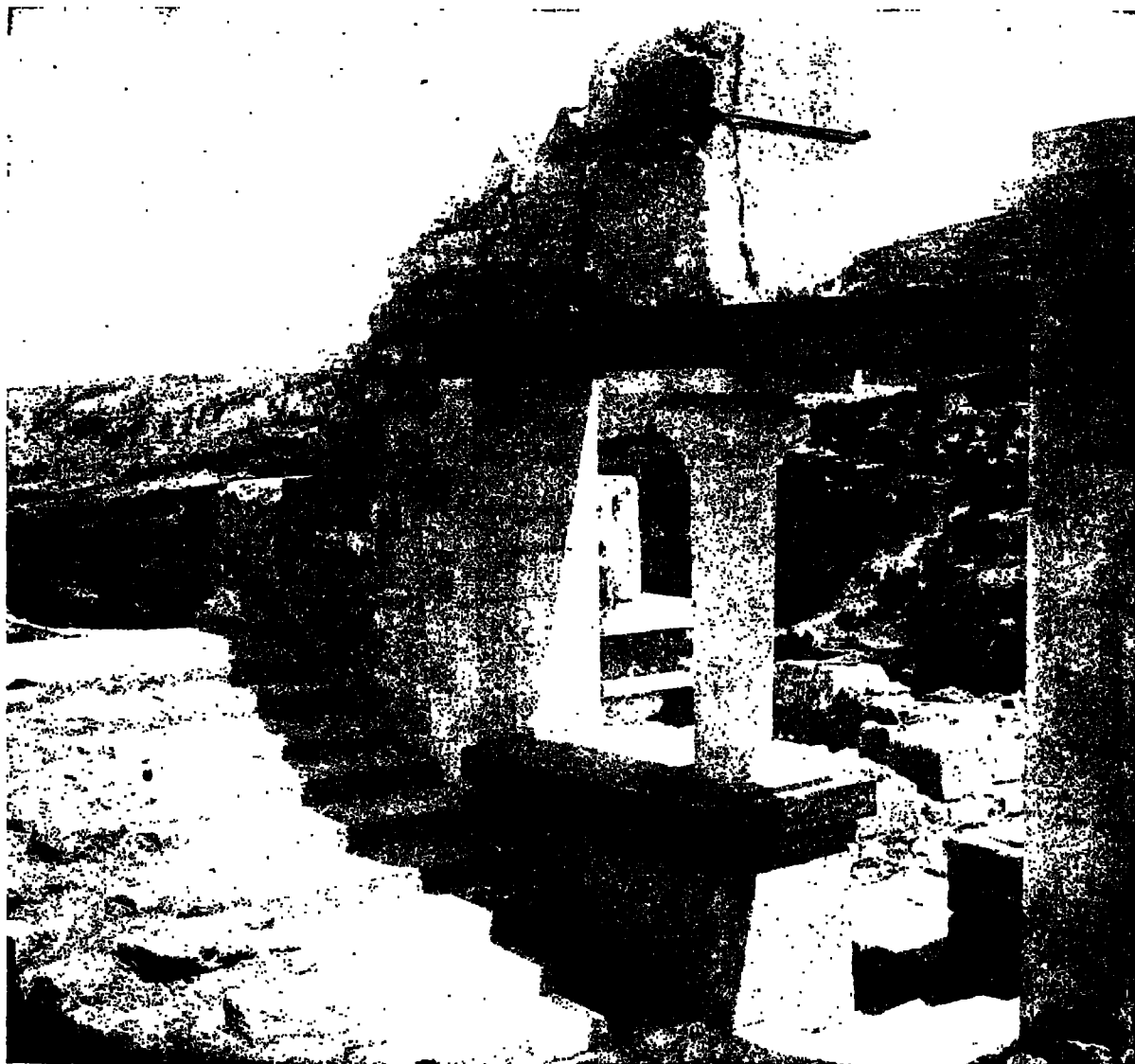
Photograph from Sir Arthur Evans's "Palace of Minos"



GRAND STAIRCASE AS SEEN FROM THE GALLERY ABOVE THE SPLENDID HALL OF THE COLONNADES

A view of the two lowermost flights of the grand staircase, with columns restored. In all, three flights of steps have been preserved, and part of a fourth, together with their landings. Each of these flights is flanked with a parapet wall which serves to support the columns that carry the timbers of the floor above. At the extreme left of the photograph may be seen a window which gave light to a private staircase of the service quarter.

Photograph from Sir Arthur Evans's "Palace of Minos"



AT THE TOP OF THE GRAND STAIRCASE IN THE PALACE OF MINOS

Photograph of the restored fourth flight of stairs and all that remains of the landing-block of the fifth. The site of the palace is a rounded spur of a hill, and on the east side the ground falls sharply, thus necessitating the construction of a building of several floors, and of this extraordinary staircase, designed to connect the ground level of the court with the other floors.

Photograph from Sir Arthur Evans's "Palace of Minos"

religious, official, or industrial; on the east side they were domestic and residential.

A long, straight corridor passes down the middle of the western block. A series of narrow magazines opens into it. Some fifteen of these appear to have been in simultaneous use. They are remarkable for a number of sunken stone receptacles in the floors, and for rows of immense earthenware jars, each able to hold one of the Forty Thieves with ease. The sunken receptacles, in their most developed form, were carefully-made chests of gypsum slabs, jointed together and carefully concealed under the floor of the corridor. Traces of gold leaf and other remains prove that they had once been used for precious objects, but

nothing of value was found in them. The same corridor, however, furnished a large hoard of terra-cotta tablets inscribed with the signs of the Cretan language. Evidently they dealt largely with inventories and accounts.

The earthenware jars must have been used for the storage of oil, either cultivated and pressed by the monarch, or perhaps collected as a tax in kind. It happens that a characteristic example of the jars has been in the British Museum for many years. A Cretan citizen, who appropriately bore the name of Minos Calocherinos, sank a trial shaft on the site, and struck on one of the jars, which he gave to the Museum, but his exploration was insufficient to reveal its significance.

Near the north end of the west side of the central court, four steps lead down to an ante-room, and thence to the Throne Room. In the centre of one side is the "Throne of Minos," with scalloped back and arcaded front. A cast of this chair—described by Sir Arthur Evans as "the oldest throne in Europe"—may be seen in the British Museum. Stone benches for the council run along the walls, which are decorated with frescoes of sacred gryphons confronting one another in a Nile landscape of water and papyrus.

Not far from the Throne Room was a "temple repository." One of the stone chests, similar to those already described, contained a great hoard of porcelain objects associated with worship. The series included the extraordinary figures of a Snake Goddess and her votaries, well known everywhere in facsimile, together with votive robes and girdles, cups and vases with painted designs, flowers, fruit, foliage and shells in the round, small reliefs of cows and calves, and wild goats with their kids, and a variety of plaques for inlaying.



JAR USED FOR THE STORAGE OF OIL SOME 4,000 YEARS AGO

One of the numerous and immense stone jars which have been found in the magazines of the Palace of Minos at Cnossus; the bigness of the jar can be gauged if its size be compared with that of the man on the left. The sides of these earthen vessels bear a moulded rope decoration, imitative of the actual cradles employed in their transport. Oil, a main source of wealth to Minoan princes, seems to have been exported at a very early date from Crete to Egypt.

Photograph from Sir Arthur Evans's "Palace of Minos"



INTERIOR VIEW OF ONE OF THE MOST ANCIENT OF PALACES

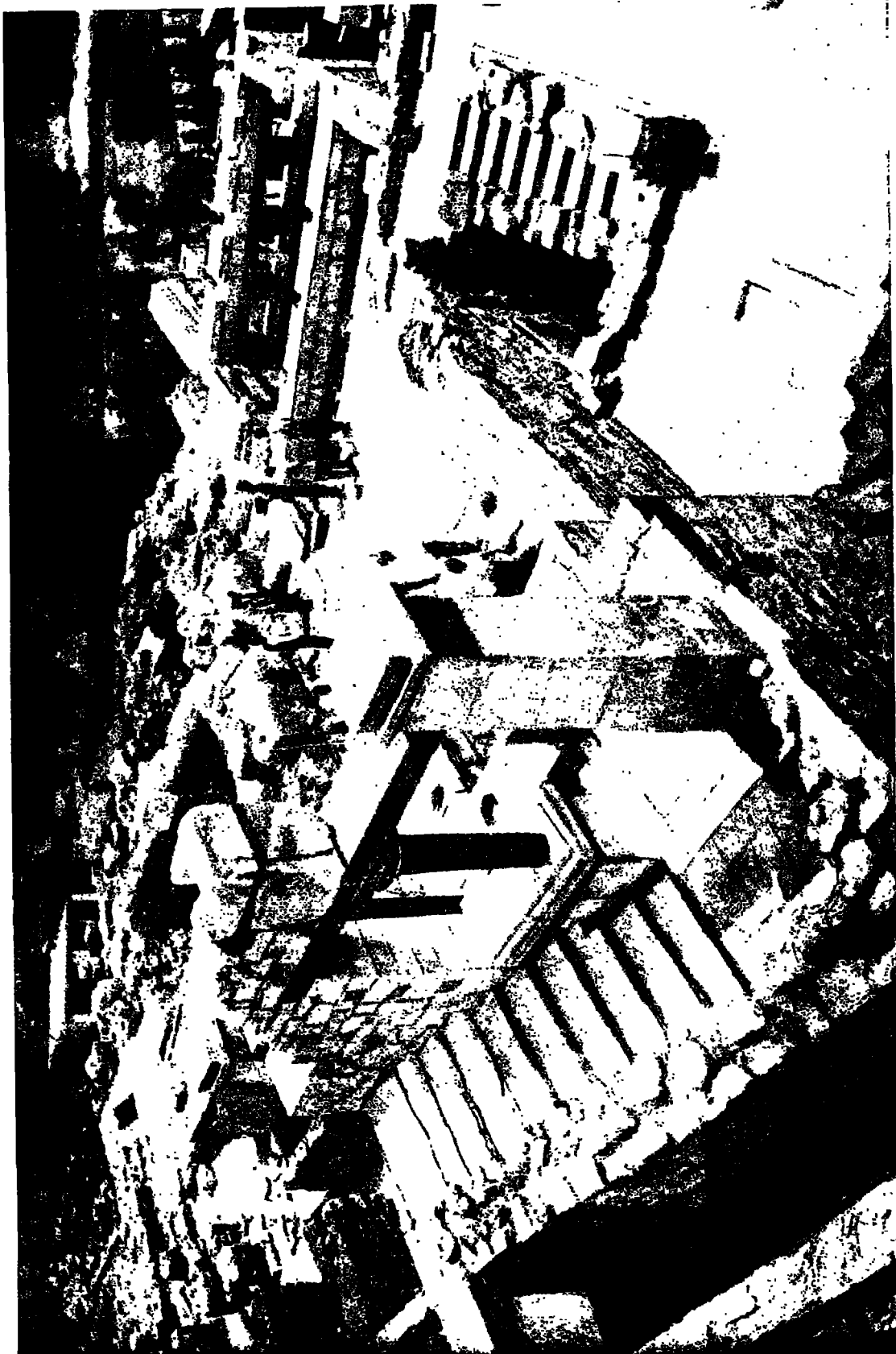
In the Hall of Columns (columns restored) at the once royal home of Minos, King of Crete. With skill and at heavy cost excavators have succeeded in preserving many of the main features of the wonderful structure which has been seen in the background and so have been able to reveal to the modern world the structural details of a building that is now, six acres of ground, dates back 3,600 years.

Photograph from Sir Arthur Evans's Palace of Minos

In the eastern half of the palace the falling levels, already mentioned gave occasion to buildings of several floors. An extraordinary staircase about the middle of the east side connected the ground level of the court with the floors below. Three flights of steps and traces of a fourth together with their landings are preserved. The flights are flanked with a parapet wall supporting columns carrying the timbers of the flights above. With great labour and cost, the excavators succeeded in preserving the main features of the staircase. They were thus able to restore to the modern world the structural details of a piece of building which dates back some 3,600 years.

Not far from the staircase is the principal extant reception room of the palace known as the Hall of the Double Axes. The symbol of the double axe played a large part in Minoan religion and it occurs frequently repeated in the hall to which it gives its name. This is a dignified chamber with a portico a porch of eight pillars and a raised platform approached like the platform of any modern concert room by a flight of steps at each side.

The most surprising feature of this part of the palace is its ingenious system of drainage and sanitation. The whole of the palace area had an elaborate system of drainage. For carrying away



GRADUAL RE-EMERGENCE OF THE GREATEST MONUMENT OF A LONG LOST CIVILIZATION

Archaeologists divide the history of Minoan civilization into three major periods—Early, from 3000 to 2100 B.C.; Middle, 2100 to 1600 B.C.; and Late, 1600 to 1200 B.C. Each of these they subdivide into three minor periods, approximate dates being given to all these nine periods by their association with Egyptian objects of agreed dates. Middle Minoan was the flowering period of Cretan culture, and it was during those 500 years that the great palaces were built—vast, complex structures whose architectural magnificence, wonderful sanitary system and provision for comfort and luxury are being uncovered by Sir Arthur Evans. This photograph shows, on the left, part of the offices of the palace of Knossos, and, on the right the queen's apartments.



EARLY CRETAN LIBATION VESSEL. REMARKABLE RELIC FROM THE CITY OF THE MINOTAUR
 Wrought about 1350 B.C., roughly at the time when Tutanekhamen was reigning in Egypt, this libation vessel, in the shape of a bull's head, is one of Sir Arthur Evans's many extraordinary discoveries at Knossos. The head is made of black steatite, or soapstone, inlaid with rock crystal and shell. The eyes are made of rock crystal rimmed with jasper. The horns and ears, missing when the vessel was found, have been subsequently restored. At the top of the head there is a large hole into which liquids can be poured, and in the lower part a small hole through which they can slowly escape.

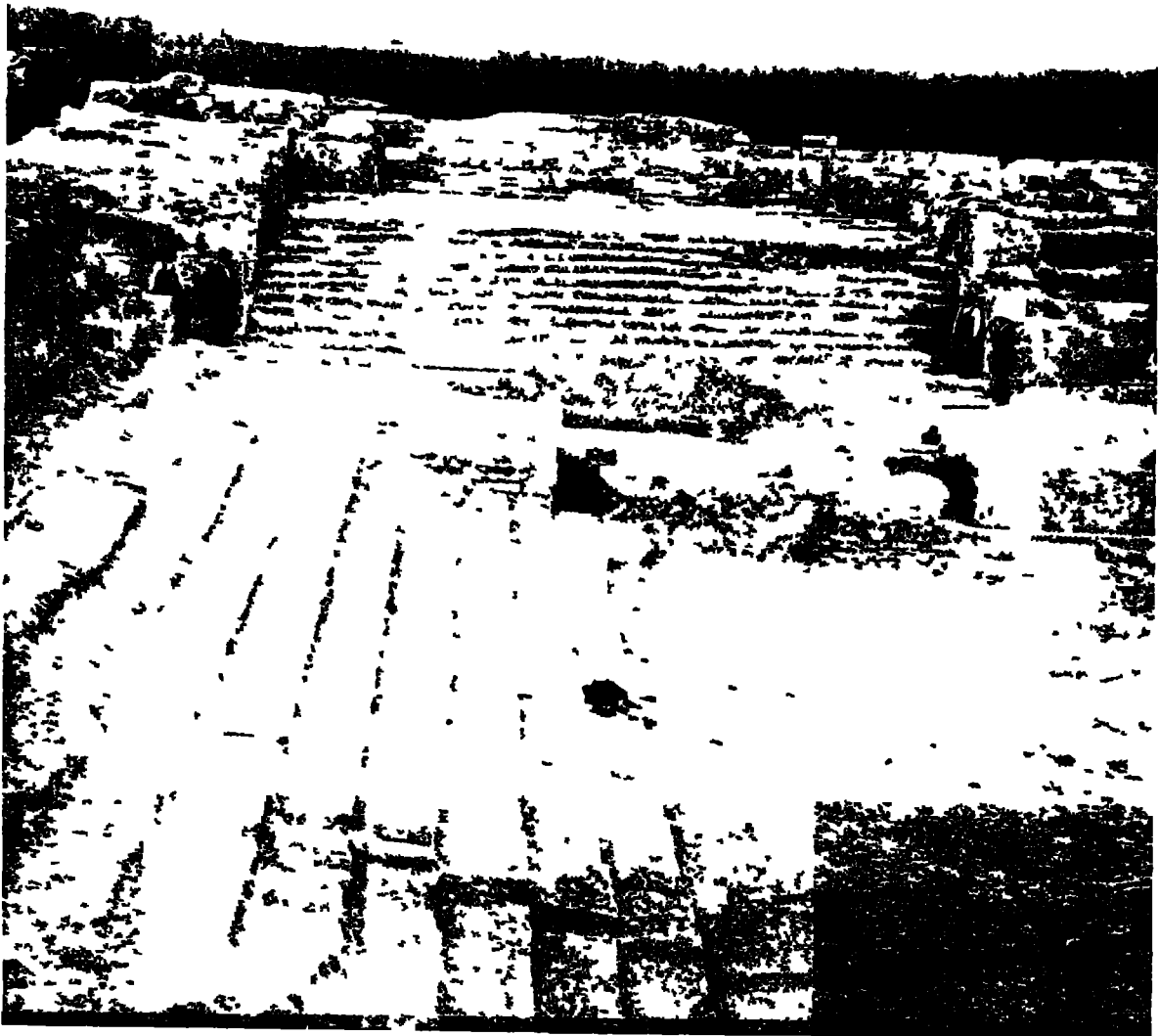
Reproduced by courtesy of the Society of Antiquaries and of Sir Arthur Evans

the torrential rain in the court the rainwater from the roof and the overflows from the cisterns, finely modelled terra cotta pipes were used of tapering form and designed to fit one into another. In addition to the provision for rainwater drainage, there is an extraordinary system of sanitary drainage in connexion with the domestic quarter. Beneath the buildings of this region, and manifestly dating from an older arrangement of the plan, is a built drain looped in plan like a figure 9, the levels running down from the top of the loop to the effluent and so down to the stream. In connexion with the loop of the figure 9 arc remains of

perfectly effective latrines or closets on the ground floor and the first floor.

Sir Arthur Evans closes his description with the comment 'As an anticipation of scientific methods of sanitation, the system of which we have here the record has been attained by few nations even at the present day.'

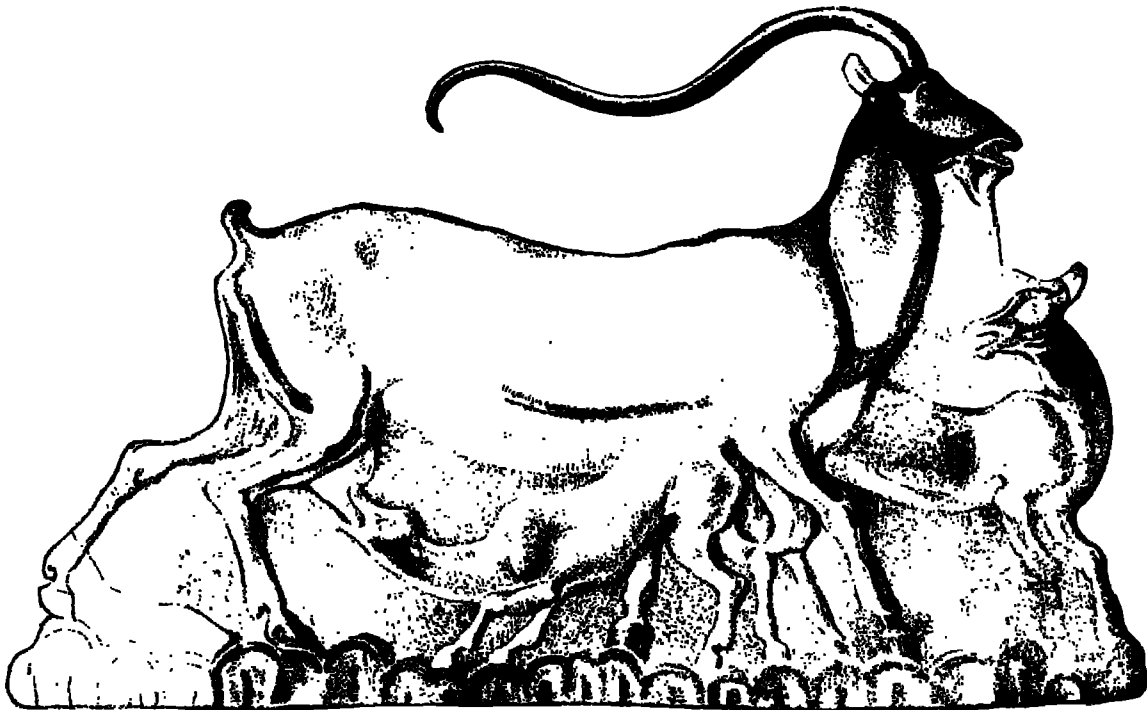
If we return to the northern entrance, we find, on leaving the gate, a paved way leading westwards to a space which has been called the 'theatral area.' That is to say, it is a piece of paved floor suited for theatrical spectacles, but not having the theatre form. This, of course, was



SUPERB STAIRWAY IN THE COURT OF A ONCE GLORIOUS CRETAN PALACE

The Crete of which Homer sang, 'the land and the wine-dark sea,' boasted 'unnumbered men and ninety towns.' Of the old Cretan city of Phaestus, some twenty-five miles south-west of Candia, ranks in interest next to Cnossus. The palace at Phaestus, where excavation was begun A.D. 1900, dates from about 1500 B.C. It is one of the most remarkable of all the ruins which have been found in the island of Crete. This photograph gives a vivid impression of the size of the palace, which must have been a building of splendid proportions.

From Sir Arthur Evans's *Palace of Minos*



This, one of a series of panels, pale green in colour, with dark sepia markings, shows a wild goat, naturally associated with the Snake Goddess in the rôle of divine huntress, suckling a kid in a rocky Cretan field, while another kid bleats for its turn.

The group of the cow and calf, commonly associated in Egyptian art with the cult of the Mother Goddess, Hathor, was adopted by Minoan craftsmen in connexion with the analogous cult of the Mother Goddess of the Cretans.



SPIRITED AND NATURALISTIC ART IN MURAL DECORATION OF THE MINOAN AGE
From Sir Arthur Evans's "Palace of Minos"



The royal villa at Hagia Triada proved to be a treasury of Late Minoan art. Naturalism marks the fresco (top) of a cat stalking a bird, and careless floridity the painting of the limestone sarcophagus; this portion shows the Minoan double axe upon an altar



Courtesy of Sir Arthur Evans and Mr. John Murray



G. Maraghianni

MINOAN FEATURES AND FASHIONS DEPICTED IN BRILLIANT FRESCOES

From numerous fresco paintings we know much about the appearance and costume of the Cretans in the great days of Minoan civilization. The men wore little but a loin cloth confined by a tight belt and their physique is typically represented in the Cup-bearer (top right) and the boy in the plate opposite. The women's dress is fully shown in the snake goddess statuette in page 726. They wore their hair in long tresses as shown in two examples here, and we learn from the so-called 'Parisienne' (bottom left) that they painted their lips carmine.



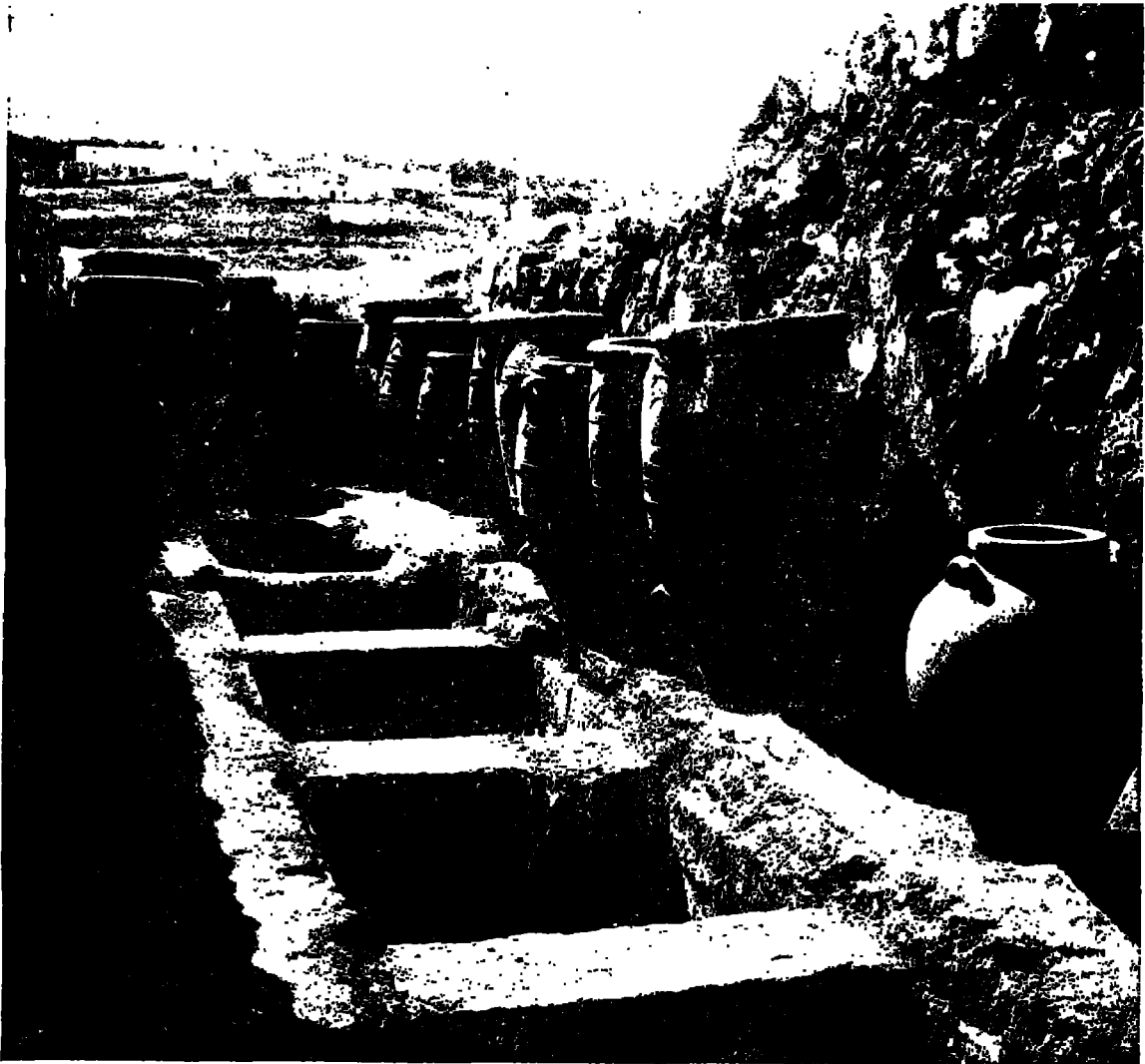
British Museum



From Fresco, Palace of Minos, Macmillan & Co., Ltd.

RELIGION AND ART IN THE WONDERLAND OF ANCIENT CRETE

The precise meanings of the religious objects and remains of the astonishing Minoan civilization are of course matters of conjecture and probability while the curious Cretan script defies interpretation by scholars; but there is little doubt that the beautiful wall fresco (restored) from the early palace of Cnossus (before 1750 B.C.) known as the 'Boy Gathering Samou' is a religious scene, since the plant was an integral part of the mother goddess worship. The two pottery figures seen above (Lucerne, before 1600 B.C.) are generally believed to represent the Snake Goddess and her Votary. A suggested altar arrangement for these is seen in page 111, and in page 112.



ONE OF THE MAGAZINES IN WHICH MINOS STORED HIS FABLED WEALTH

The construction of the numerous sunken receptacles which formed a feature of these storage chambers is clearly seen. On parts of the stonework blackening still remains as certain evidence that fire was an agent of the final and terrible catastrophe that destroyed the palace, a stupendous monument belonging to a period long anterior to that of the Greece of history. In the magazines, which held the treasure of precious oil, the conflagration would have been particularly fierce.

This and other photographs in this article are reproduced from Sir Arthur Evans's "The Palace of Minos at Knossos," by arrangement with the publishers, Messrs. Macmillan & Co., Ltd.

evolved by the architects of Greece and Rome between one and two thousand years later. The area is bounded on two sides by broad flights of steps, at right angles to each other, and with large platforms for their upper landings. It would hardly serve for the favourite Minoan sport of the bull-ring, but it is excellently adapted to public dancing.

Homer sings that "Daedalus once made a dancing-floor in broad Knossos for fair-haired Ariadne." Bearing this in mind, Sir Arthur Evans once delighted a steamerful of visiting archæologists by organizing a dance in the traditional manner of the workmen and their womenfolk—"a dance, maybe, as ancient in its origin as the building in which it took place. . . . Of such a kind, we are

told (by Plutarch), was the geranos dance, mimicking the mazy turns of the labyrinth, by Theseus, instituted at Delos, before the image of Aphrodite, that he had received from Ariadne."

The Palace of Knossos is a stupendous monument of a period long anterior to Greek history and to Greek literature. But, if it stood merely as an architectural wonder, more than half its interest and value would be lost. It is by a minute study of its pottery, its porcelain, its gems, inlays, alabaster, frescoes, inscribed tablets, and religious emblems that its owner and excavator has done more than any other man to restore to the world a whole buried civilization hitherto hardly guessed at or imagined.



MOST EXQUISITE ART PRODUCT OF MINOAN CULTURE

Boston Museum of Fine Arts

What were the actual name and attributes of the so-called Snake Goddess of the Minoans cannot be declared until the key to the still undeciphered tablets is discovered. This really beautiful ivory and gold statuette dates from about 1500 B.C. It stands 6½ inches high and represents the goddess in typical Minoan costume—a very low-cut bodice exposing the breasts, broad gold belt tightly compressing the waist, and long, full skirt with five flounces. She stands with outstretched arms, each hand grasping a snake coiled round her arm, and on her head she wears an elaborate tiara. In conception, design and execution this Late Minoan statuette shows an almost incredible advance upon the Middle Minoan faience figures shown in the colour plate facing page 724 which cannot be more than 200 years older.

The Wonder Cities. XIX.

Carchemish of the Hittites

By C. Leonard Woolley

Author of "Dead Towns and Living Men"

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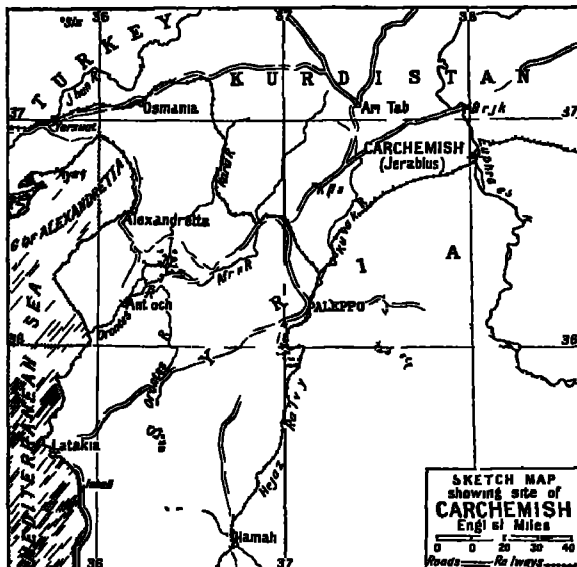
A GREAT and opulent city, where a vigorous art flourished, and powerful kings ruled four thousand years ago the fragmentary remains of Carchemish have only in recent years been partially unearthed thanks to the enterprise of the British Museum and of the rich results of the excavations the following chapter in its pictorial element bears witness. The famous archaeologist who writes this chapter was himself for several years director of the Carchemish excavations, and the thrilling story of his adventures is told in "Dead Towns and Living Men"—EDITOR

JERABLUS is a small Arab village lying some seventy five miles north of Aleppo on the right bank of the Euphrates, at the point where that river comes closest to the Mediterranean Sea. When the Germans planned the great railway which was to link up Bagdad with central Europe, it was here that they put the thousand yard-long steel bridge by which their trains might cross the river.

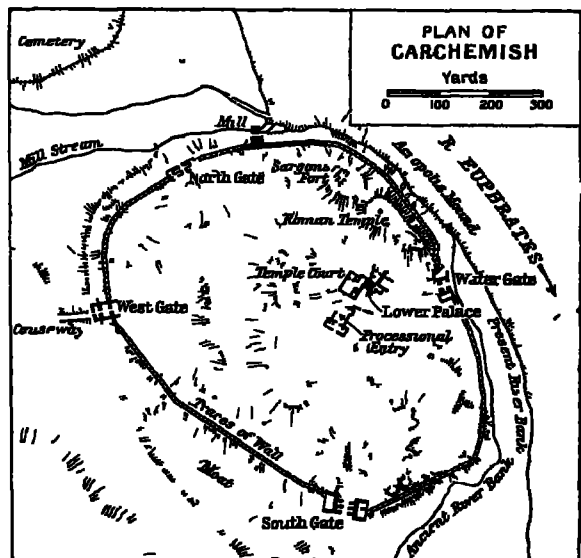
Unconsciously, perhaps, the modern engineers were carrying on a tradition very many centuries old. For Jerablus is the site of Carchemish and Carchemish owed its being and its greatness to the fact that here one of the few fords of the

Carchemish took toll. No wonder that the city grew rich and ranked foremost among the North Syrian states.

The Hittites were originally an Asia Minor people. They were a confederacy rather than a race, for some elements of them were of a native



upper Euphrates made easy communication between East and West. To Carchemish came the caravans laden with the merchandise of Mesopotamia, of Persia, and of Kurdistan, here they met the traders from Egypt, Phoenicia, and the Hittite north, and from all these the kings of



Caucasian stock while others spoke an Indo European dialect remotely resembling Greek and were undoubtedly related to those early inhabitants of the Greek islands to whom the wonderful civilization of Crete was due. During much of their history they were divided up into independent states often allied together, some times making war on one another, and only towards the end submitting to the rule of a single overlord. As early as the twenty-fourth century before Christ they must have been fairly civilized, for we find planted in their midst trading colonies from Mesopotamia whose records show that the country was well organized with up-to-date business



NOW OPEN TO THE LIGHT OF DAY THE ONCE DARK AND MYSTERIOUS SHRINE OF A HITITE GOD

The spectator is now standing within the walls of the temple and looking out through the doorway to the temple court. No sculptured figures adorned this innermost sacred shrine the limestone slabs were plain only the basalt door jambs having inscriptions on them but the upper walls now destroyed were filled with beautiful glazed bricks in blue and yellow. Directly in front the doorway stands a great hall supported by stone pillars. The whole temple and more especially this central hall narrow and plain is quite unlike Assyrian sanctuaries, but bears a strange resemblance to the House of Jehovah built for Solomon by the workmen of King Hiram who imitative Phoenicians that the west may well have sought architectural inspiration at Carthage the great city of the Syrian hinterland.



IMPOSING FRIEZE OF PROUD WARRIORS SCULPTURED ON A PALACE WALL OF CARCHEMISH

The dignity of this representation of Hittite sword men sculptured on a fine processional wall set up in a wide square between splendid palaces recall the might and power that once were in Carchemish. In front of the wall men of the royal family stand, welcoming them home (c. 1100-730). The wall different from any other yet found in that the frieze is not on the ground level but stands some four feet up over a row of plain and heavy masonry.

methods and a developed judicial system. At that time they may have been subject allies of Mesopotamia but if so the tables were turned and the warlike character of the Hittites was proved when about 1750 B.C. they raided and sacked the city of Babylon. At a rather earlier date Abraham is said to have found Hittite land owners at Hebron, and Esau married with the daughters of Heth probably it was some time before the Babylonian raid that they had established themselves firmly in North Syria and at Carchemish, on the far side of the Amanus mountains, set up an outpost of empire.

Carchemish had been in existence long before that, but on a humble



SHIELD-BEARING HITTITE SPEARMEN

Arrived in their tall plumed helmets the subjects of this pictured scene on the long processional wall are not unlike two Athenian soldiers of the fifth century B.C. Each in the fashion of his corps is armed with a heavy spear. They march in twos towards the palace door where the wall turns and the scene changes again.

scale. It had started as a village perched on a little rocky knoll jutting out into the Euphrates. This original mound was gradually raised in height by the accumulated rubbish of generation after generation of houses built of unbaked mud brick and in due time became a fortress enclosed by a wall of defence. But as trade along the caravan routes increased and the town waxed more important, the old fortified hilltop became too small for the people's needs. Houses were built on the low ground at the mound's foot, and in some period of prosperity the city's ruler threw up a second line of defence including all the new quarter. This consisted of an outer ditch and an earth mound



THE HITTITE ROYAL FAMILY WELCOME THE CONQUERING ARMY

In this charming scene we see a Hittite king the crown prince and children marching soberly from the palace gates to greet victorious troops. The royal children are represented in the top of the double panel walking in solemn procession, but in the lower panel are other children who have relaxed frankly to a more congenial pastime and are seen at their childish play—perhaps tossing knuckle bones or playing with top. A nurse brings up the rear of the procession carrying the baby of the royal house and it is, too, at the end of a string a pet animal whose name—a pretty piece of sentiment—is inscribed above it. He is

some 60 feet high along whose top ran the wall proper. It enclosed an irregular more or less oval area measuring some 600 yards by 500.

The natural result was that the original mound became as it were the keep of the castle the old houses huddled on it were swept away and in their place rose the palace of the king the barracks for his soldiers, and probably temples for the gods. When this change took place we cannot as yet say. It may have come soon after 2000 B.C., corresponding to the beginning of the Second Hittite period, when the northern influence was reinforced in Syria but it is also tempting to place it towards the middle of the second millennium before Christ, when the Hittite empire reached the zenith of its power.

Early in the fourteenth century, Subbiluluma king of the main Hittite tribe whose capital was at Boghaz Keui (Khattu) in Cappadocia, made himself overlord of the whole of Asia Minor and North Syria. His conquests brought him to the frontiers of the Egyptian empire, and since his ambitions did not stop there, there was from then onwards a state of constant warfare between the Hittite kings and the Pharaohs. The main event of this long drawn duel was the great but indecisive battle of Kadesh (1289 B.C.) its result was the exhaustion of both parties, and when about 1271 B.C. peace was concluded by a treaty of alliance the Hittite power had already passed its prime. Some seventy years

later Asia Minor was thrown into turmoil by the irruption of conquering tribes from south eastern Europe the enfeebled kingdom of Boghaz keui could make no stand against them and the empire of the Cappadocian Hittites was utterly wiped out. The invaders reinforced by contingents from all the peoples whose territories they had overrun pushed down into Syria destroying Carchemish en route and were only stopped by Rameses III on the very borders of Egypt.

It was not a raiding army that Rameses defeated it was a host of emigrants who from their lost lands had brought their wives and what remained of their possessions in the search for a new home. Shut out from the Nile valley they settled down in the countries through which they had just passed the Philistines in the south of Syria in the north a people Moschoi or Kaskians who were, if not by blood at least by tradition and civilization, the heirs of the Asia Minor Hittites. By them Carchemish was rebuilt, and henceforward it figures as the chief state of the new 'Hittite' Empire in North Syria.

The greater part of the monuments unearthed by the British Museum Expedition which during recent years has worked at Jerablus belong to this latest phase in the history of the town. Of the prehistoric settlement there is little to show except flint implements and broken pottery though when excavations have been carried deeper down into the piled up ruins of the original village more may be brought to light. Of what may be called the First Hittite period there has been found the ring-wall of the earliest citadel, a few houses within it, and below the floors of these some contemporary graves—stone-lined cists wherein the dead lie at full length, with their weapons by their sides and pottery vessels heaped up in the corners, prominent among these being tall stemmed goblets like shallow wineglasses (perhaps really lamps) which have given rise to the nickname of the "champagne period."



WINGED GODS BEFORE WHOM EVEN THE LION IS QUIESCENT

This boldly wrought relief of the Hittite gods of the sun and the moon poised resolutely on a lion's back surely has a meaning far deeper than words. Probably the slab represents one of the far back allegories of the human soul for the Hittites were a spiritual and superstitious people and their records which have come to us down the long galleries of time clearly show

The walls of the inner town belong to the Second Hittite period. On the landward side they consist as has been said already of a huge earth rampart once capped by a bulwark wall along the river front however the earthwork and the wall rose straight from the water's edge. It was built of brick above and below of massive stone. The Hittite masons believed in solid construction and in this river wall there are blocks measuring five feet by four and a half, laid without mortar but so accurately joined that even to day one cannot drive a knife blade between the stones. The same megalithic work is found in the south gateway where the pier-caps are formed of single slabs more than four feet high and nine feet across. This gate was an impressive monument. The approach was guarded by stone lions whose open jaws and bared teeth might strike terror into the heart of an enemy. High towers flanked the arched gateway. The paved road its flagstones worn into ruts by the wheels of the chariots, passed through three great folding doors set one behind the other into the main street that led to the citadel, in one of the recesses of the entry stood a colossal statue of white marble, the bearded and turbaned figure of a Hittite king.

Inside the town the buildings of the Second Hittite period have, so far as we can tell, been



CAPTAINS OF THE HITTITE ARMY IN PROCESSION OF WHOM THE FOREMOST BEARS AN OLIVE-BRANCH

This is the left hand angle of that same buttress illustrated in page 740 wherein the king and his son are standing to greet their victorious army they may be seen here again on the right. In the re-entrant of the buttress is a lion pedestal from which the statue is missing, and the corner is formed of a block inscribed with those mysterious characters whose meaning is still unwon and of which examples are shown enlarged in plates 715 and 716. On the slabs are low reliefs of the captains of the army—almost Greek are those on the left in their arms and bearing, possibly Carian in fact although the others with their long robes are more Assyrian in appearance.



STOLID BULLS OF STONE OUTSIDE THE PALACE AT CARCHEMIŠH

Behind the slab illustrated in page 731 stand two robust and patient bulls, with the pedestal of a statue supported between them. Was it in some such work, the latter perhaps illustrated in page 728, that Hiram, the clever artificer fetched by Solomon from Tyre, found his model for the "Brazen Sea" which "stood upon twelve oxen" (1 Kings vii, 23)? In the boldly blocked outlines of these bulls it is possible to see the same style of workmanship as in the lion illustrated in page 900 which was perhaps a Hittite trophy captured in war by the Babylonians.

without exception destroyed by the twelfth-century invaders; a bed of ashes covers their scanty ruins, and such sculptured stones as survive owe their preservation to having been re-used in later buildings. The burial customs of the time are best shown by a large graveyard which was found and plundered by the natives at a place called Amarna eight miles down the river. There we find stone cists like those of the preceding age, with bodies buried at full length; but the bronze weapons are of new types, the old "champagne" pots are wholly absent, and the beautifully turned and burnished clay vessels show an immense advance on those found in the citadel graves.

Much more violent is the break in continuity between the Second Hittite period and the Third; excavation proves that the people who after 1200 B.C. re-established Carchemish were very different from its old inhabitants. That they inherited the Hittite culture is clear enough, for they wrote in the same hieroglyphic script as is found on monuments all over Asia Minor, and their sculptures and their jewelry are Hittite, though

the former may at times betray the influence of Assyrian art. But they cremated their dead instead of burying them, and this means much, since burial customs, reflecting religious beliefs, are always conservative; they used iron instead of bronze, and they introduced a type of pottery which both in its forms and in its painted decoration is in startling contrast to anything that had gone before in North Syria. It is fairly certain that they must have come from the south-west of the Asia Minor peninsula, where they had formed part of the old empire of Boghaz-keui.

The newcomers were fully prepared to do justice to their own traditions and to the past greatness of Carchemish. They not only rebuilt the town, but they enlarged it. New quarters rose into being beyond the old earth rampart, and as these grew in importance they in turn were safeguarded by a new city wall of stone and brick which enclosed an irregular area some thirteen hundred yards long by a thousand yards across; the old ditch and mound still remained in use as an inner line of defence, and the citadel, whose revetted

sides rose a hundred feet above the palaces at its foot, formed the last refuge in case of disaster.

Fortunately, the buildings of this period are well preserved, and from them we can gain a knowledge of Hittite art such as was impossible when almost the only material for study was afforded by the weather-worn rock-carvings of Asia Minor or the third-rate



CARVEN GODS OF CARCHEMISH

Symbol of victory, a figure of Ishtar, naked, winged, and clasping her breasts, stands among the company of the gods in the triumphal frieze of the great square in the midst of royal Carchemish.



THE HORSEMEN AND THE CHARIOTS THEREOF

The chariotry of the Hittites was one of the terrors of old Egypt before the Egyptians too had imported and learnt to master the horse. Here we see bowman and charioteer proudly charging over a stricken foeman of Semitic appearance—part of the same narrative frieze from the public square of Carchemish as the slab above.

sculptures of provincial towns. Here in the capital of the later empire the best artists were available, and no expense was grudged for the adornment of the city's monuments.

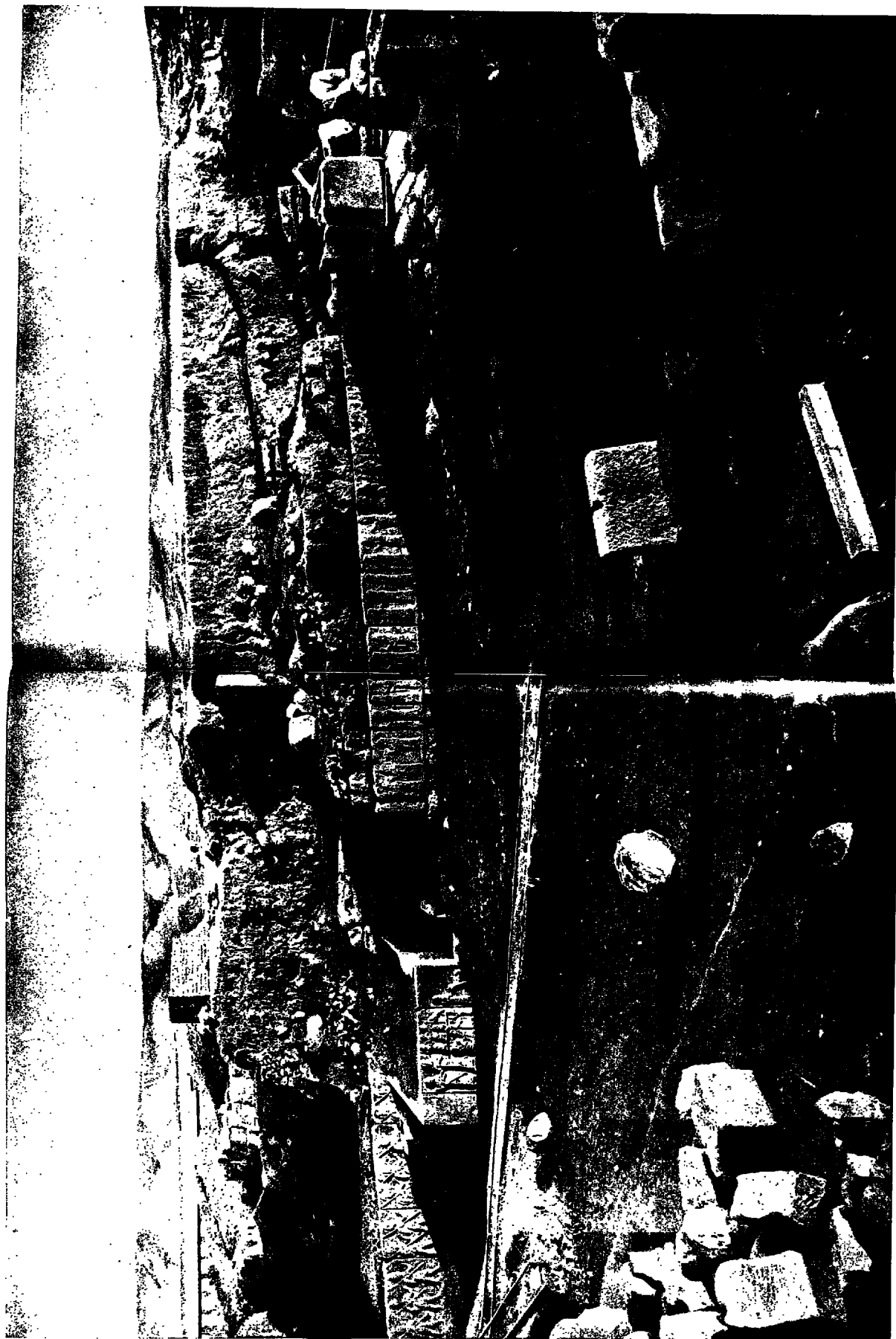
The British Museum's excavations covered but a very small part of the town's whole area, but have laid bare at least in part what must be some of its most important buildings.

From a gateway in the river wall, richly decorated with sculptured reliefs, a broad road ran inland, skirting the citadel, to a wide square set between splendid palaces. One of these was built in terraces up the steep slope of the mound and covered part of its summit. From the public square a wide stone staircase ran up through the building; the walls on either side had a dado of black basalt whereon were boldly-cut reliefs of the great gods and their worshippers; at each terrace level the flight was interrupted by a narrower landing



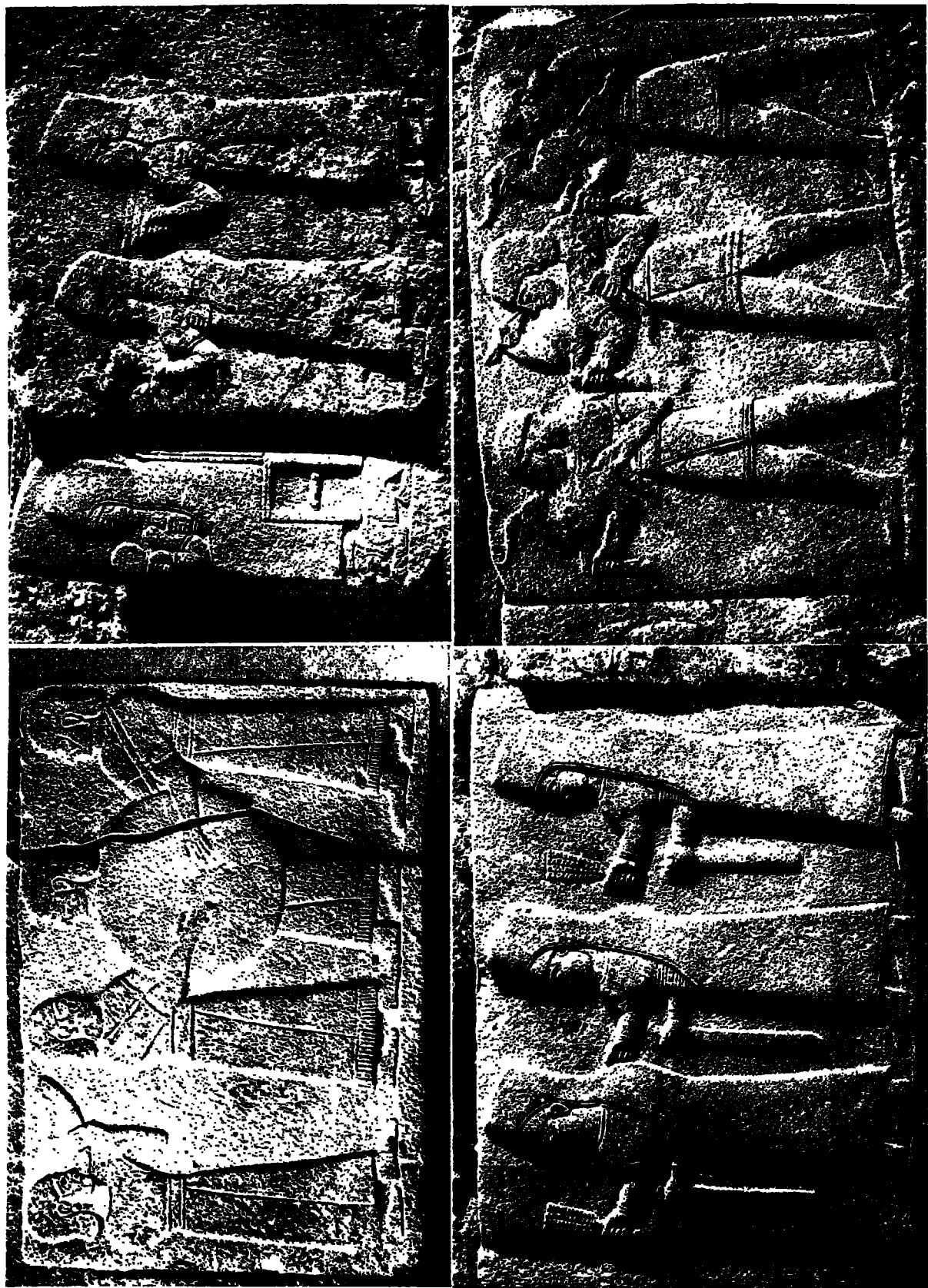
THRONED UPON LIONS, A HITTITE GOD AND HIS EAGLE-HEADED ATTENDANT

If the Greeks achieved the highest conception of majesty and beauty in godhead with the Zeus at Olympia (see page 237) surely the grim and awful aspects of divinity have never been more ruthlessly realized than in this square brown statue of a Hittite god. Its position is shown in the photograph in pages 736-7. The primitive qualities apparent are probably a survival due to religious conservatism, for by comparison with the neat and modern looking soldiers of the bas reliefs it is archaic and almost grotesque.



ONCE BRIGHT WITH COLOUR, AND WITH OUTLINES STILL CLEAR AFTER 3,000 YEARS:—
On one side of the great public square at Carchemish is a building, of which the doorway is set back in a recess forming a deep bay in the wall of this recess are the most notable reliefs discovered on the site. Portions of them are illustrated in pages 736 and 737, but the whole may be seen in their relations to each other, without which it would be impossible to realize their fine effect. On the left are the "mighty captains" leading a returning army, which is greeted (on the front of the buttress)

—RELIEFS OF A PUBLIC FUNCTION IN THE DAYS OF THE SPLENDOR OF CARCHEMISH
by the king, the crown prince, and the younger children. In the small recess (a subsidiary gateway) are the musicians; at the end is the goddess on her lion throne; and then follow her priests and priestesses. On the extreme right is the main doorway, and against one of the door-jambs is the grim seated god illustrated in detail in page 735. The reliefs were originally picked out in colour which must have given an indescribably brilliant effect, and even now that the colour has vanished, we realize that we are in the presence of a true work of art.



FOUR SECTIONS OF THE CONTINUOUS FRIEZE AT CARCHEMISH CELEBRATING THE ARMY'S RETURN
 Behind the royal family in the triumphal frieze are the musicians (in a recess), and a goddess on a lion throne followed by priestesses with offerings and ribbons, and priests bearing gazelles.



HITTITE VICTORS AND THE GODS IN WHOSE NAME THEY FOUGHT ON CARCHEMISH PALACE WALLS

On the left hand side as one faces the royal steps (see the illustration in page 744 a wing of the palace projected along one side of the great square on it was a long, continuous frieze showing with spirited freedom the triumph of Hittite arms while next to the steps stood the company of the Hittite gods is turned to bless the victory. Among these latter, the figure of an Ishtar like personage which may be seen in a larger scale in page 734 as also is one of the triumphant chariots. In the centre of the wall, and visible here towards the right, is a limestone slab bearing presumably a record of the victory but to archaeologists it is still indecipherable.



ANIMAL-HEADED DEITIES IN THE HITTITES' VAST PANTHEON

Like those of the Assyrians who triumphed over them, these ancient gods passed into the light and out again. Cleverly wrought thousands of years ago, they stand looking out over the world while the generations pass and while the caravans of camels go by below and the peasant ploughs with his ancient plough century after century

shut off by massive folding doors on whose lintels was carved the winged disk of the sun, the emblem of royalty, at the corners of the landings basalt lions supported the upper masonry and glared defiance at the intruder. Some of the broken sculptures are now in the British Museum, brought back more than fifty years ago, of the rest, only fragments were found still in position, but the staircase itself remains ruined but imposing, to witness to the spacious life of the old Hittite princes

To the right of it yet stands as it was first set up one of the most striking monuments of the site. It is a huge limestone slab whereon are carved the gods of the sun and of the moon standing upon the lion which symbolises their might. It was never part of a wall but an isolated monument put up in the gods' honour, and before it is a block of basalt hollowed to receive the offerings of the pious passer-by. Behind it, against the palace wall, stands the base of a statue gone long since—a pair of stalwart oxen hewn out of basalt. Their horns were of metal, probably gilt, and their eyes were inlaid with coloured stones or glass to give a livelier effect, but for all the realism of detail and of movement there

is about them an artistic restraint which makes them truly statuesque

To the left of the staircase a wing of the palace projects out on to the low ground at the foot of the mound, forming one side of the public square and closing the vista from the water-gate. The whole of the long wall that thus faces down the road was covered with sculpture. As was often the case with Hittite buildings the carved slabs were alternately of blue black basalt and of white limestone. Originally the former were touched up with colour, just as the Egyptians enhanced the

details of their granite sculpture, and the limestone, smoothed off with stucco, was more richly painted. The great frieze of life-size figures, their moulding thrown into relief by the sharp shadows of the eastern sun and the bright colours of the limestone contrasting with the more sombre tones of the basalt slabs, must have been astonishingly effective. Here the subject of the frieze is continuous, the Hittite army returning from battle in triumph



LORD OF THE BEASTS

A mythological scene in which some divine being's lordship over nature is typified by a retinue of beasts. It is instructive to compare these Hittite animals with the Assyrian representations such as those in pages 646 and following, here artistic treatment of man and beast is on the same level.



SPIRITED BATTLE BETWEEN JEALOUS BULLS

standing on fluted pavement or cobbled court whose polished stones have not known the tread of man's feet since Carchemish went down in smoke and tumult two thousand five hundred years ago, one gives in the two at long rows of sculptured figures, gods fighting men and beasts such as those above, with inscriptions in honour of long forgotten kings.

Chariots drive over the prostrate bodies of the Semitic foe, foot soldiers with spears at the slope carry severed heads—all advance towards the staircase and there at the front of the procession are the chief gods of the city—in the middle, a long hieroglyphic inscription records the story of the campaign.

The decipherment of the Hittite inscriptions is one of the puzzles of modern archaeology. At Boghaz Keui, the old northern capital, German and other excavators have unearthed a vast number of clay tablets, some of them written in Babylonian, others in cuneiform characters but in the Hittite tongue. These documents are the state records of the fifteenth to the thirteenth centuries B.C. and have not only yielded the most valuable historical information about Asia Minor but have laid the foundation for the study of the Hittite languages. But the hieroglyphic script unfortunately still remains a mystery whose certain solution awaits the discovery of a new Rosetta Stone. Many attempts have been made to decipher this curious picture writing, the most consistent and convincing being that of Professor Sayce, but nothing is yet really proved. So the history recorded on the great slab in the Long Wall remains a riddle for us, but that it is a tale of victory is shown by its last line when a row of severed heads and hands is eloquent of how the enemy fared.

At the end of the Long Wall, where another street runs into the public square, a half cone of

basalt has been let into the ground against the corner of the masonry to protect it from damage by the wheels of chariots taking the turn too closely—it is a curiously modern touch!

Behind the Long Wall lies one of the most interesting buildings yet found at Carchemish for this projecting wing of the palace is occupied by a small shrine or chapel royal. The whole area is divided into two rectangular courts, cobbled and set at slightly different levels. The lower court entered both from the street and by a private doorway from the staircase, has store rooms or priests' chambers along two of its



MYTHICAL WINGED LION WITH HUMAN HEAD

The fusion of human and animal forms was a favourite theme of Hittite sculptors—but this relief remains the lion's as well as the human head is unusual. These mythical figures represented the attributes of deities or certain physical phenomena in nature.



MODERN WORKMEN ON AN ANCIENT WALL AT CARCHEMISH

Nothing is too small or too apparently insignificant to escape the eagle eye of the archaeologist, for it may have its own story to tell. Here is a small section of the buried processional wall (shown in greater detail in page 741) which has now been unearthed after a long estrangement from the world and restored to the position it enjoyed ages and ages back. Memories of centuries of Hittite life encircle it and immense knowledge of forgotten empires, religions, wars, and migrations are gathered up in it—precious facts like jewels more wonderful than the casket which contains them.

sides, while a third side is open and defined only by a step leading to the upper court. At the back of the upper court and opening on to it is the shrine proper. Its walls, of plain limestone slabs below, rose up in brick-work enamelled bright blue and decorated with white and yellow daisies; the door-jambs are of basalt and bear long hieroglyphic inscriptions; the interior of the building is a perfect square, quite small and unadorned. Facing the door of the shrine there stands in the middle of the upper court a great basalt laver or basin supported by two oxen; behind it, in a corner, are the remains of an altar of burnt offerings built of unhewn stones and earth. Ashes and bones of

animals still lay thick upon it when we dug it out. The whole structure, which was put up, probably, between 1100 and 950 B.C., answers strangely to the description of the temple which soon afterwards was built by Phoenician architects for King Solomon; the division into courts of the Jewish temple, the chambers round its outer court, the square and unadorned "holy of holies," the "brazen sea" supported by twelve oxen, and the position of the altar of burnt sacrifice, are all paralleled at Carchemish and may well reflect this northern prototype. Hiram, King of Tyre, who supplied the builders for Jerusalem, had close relations with the Moschian or Kaskian kingdom of Carchemish,



EAGLE-HEADED PROTECTIVE DEMONS

They represent a type of being closely resembling the gryphon of Greek mythology, avowedly an Eastern symbol. It may be inferred, then, that the Greeks derived their mythical figure from the Hittites by way of the peoples of Asia Minor, who probably owed their hawk-headed creatures to Hittite predecessors, they in turn being influenced by the Assyrians.

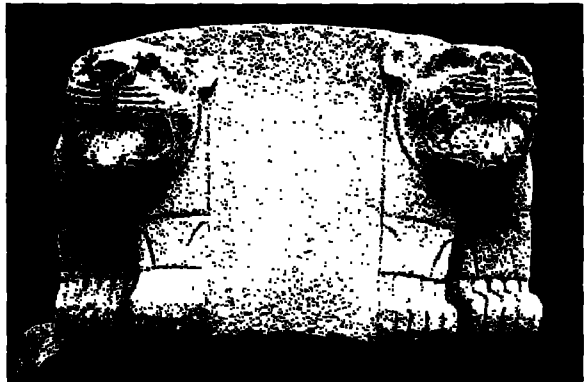


RARE EXAMPLES OF A HITTITE SCULPTOR'S ART
Were they kings who once ruled Carchemish and now walk the kingdom of the dead? That they were important men can be seen from the style of their luxuriously curled beards.

and Phoenician art, always derivative, owed not a little to the more original work of the Hittites.

Facing the staircase, on the opposite side of the square, lies another large building of which little more than the façade has yet been cleared; the whole of this is decorated with reliefs three feet high. Those facing on the square itself represent a queer medley of mythological beings and scenes whose meaning and connexion we cannot yet identify; but opposite the temple wing the

building falls back in a deep recess leading up to its principal gateway, and along this are some of the most important as well as the best preserved of the Carchemish sculptures, giving in one connected whole the welcome home of a victorious army. Foot soldiers, whose panoply and crested helmets recall those of the classical Greeks and are probably those "Carian" arms from which the Greeks claimed to have derived their own, advance towards



LION-THRONE FOUND AT CARCHEMISH
So often are the Hittite gods represented throned upon lions that the beast must have had some particular cult-significance. Here is one of the lion-flanked pedestals, now vacant.

the gate headed by five captains whose varying equipment of heavy spears and light lances, bows, swords, and maces, is that of the different branches of the army; the leading captain carries a sprig of olive. Then, at a corner of a buttress, comes a long hieroglyphic inscription, and, on the buttress face we have the royal family coming out to welcome the troops. The sculptor has not only given us the king and his son (their names and titles are carefully written against each figure), but behind these he has put the children of the royal house. Those in the upper rank walk sedately enough in the procession, but cling to their toys none the less, while other children below are frankly playing with whip-tops and knuckle-bones; behind them the nurse comes carrying the baby and leading its pet animal on a string.

Here the scene is interrupted by a secondary entrance with staircase, but on its side wall is another sculptured slab showing the musicians placed quite naturally out of the line of march. Then comes the statue of the



SPIRITED HITTITE SACRIFICIAL SCENE

This low relief represents the sacrifice of a young lion before the god Teshub, the figure grasping an axe in his upraised hand on the left, an anthropomorphic deity, as he appears to be taking a very active part in the ceremony himself.



STEPS THAT CLIMBED THROUGH THE TERRACED PALACE OF THE KINGS OF CARCHEMISH



AN INSCRIBED BASALT ALTAR

The small characters are of a peculiar cursive type, slightly incised. Their meaning is still uncertain for none of the many scholars engaged in the work has yet succeeded in raising the veil of mystery which enshrouds them.

goddess on her lion throne, and behind her a long line of priestesses carrying wine and corn and consecrated ribbons, and temple servants bearing gazelles for the sacrifice. On the back wall of the recess, by the main entrance, are more soldiers, the town guard turning out to greet their comrades. Against the inscribed door jamb sits on his lion base a great black stone god, to the squat and clumsy figure the artist has contrived to give an air of brutal strength which is impressive enough even to an unbeliever.

Of the building itself only the double gateway, the guard chambers, and the sculptured inner court have been cleared. We know that above the sculptured slabs the brickwork of the outer wall was covered by a panelling of cedar wood (a house of the Forest of Lebanon") and that the door was of cedar wood panels bound with bronze, but we have no knowledge about the internal arrangements of the building.

In the outer town, however, a few private houses dating from the last days of Carchemish have been excavated and throw an interesting light on the life of the ordinary people. The best of these also bore dramatic witness to a known historical event. It was a large villa with steps going up to its front door and a small raised porch which gave it a curiously modern and suburban air. It had good sized rooms looking on to a central court, a staircase going to the upper story, and by this a long passage like a cloak room with a small closet below the turn of the stairs.

The house had been destroyed by fire and the ruins were littered with arrow heads and broken weapons showing that a fierce room-to-room struggle had taken place here at the moment of its destruction. The objects found in the ashes included an Assyrian inscribed tablet, bronze statuettes of Egyptian gods, a ring with the cartouche of Psammetichus I and clay seal impressions bearing the name of Phur of Necho.

Here was the whole history of the last days of



A PUZZLING TALE OF VICTORY

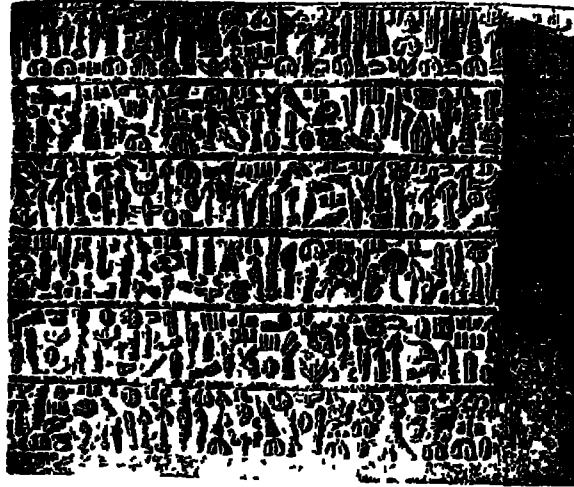
That this Hittite inscription tells a story of conquest is eloquently borne out by its last line of several heads and hands. Yet the decipherment of the Hittite inscription is one of the puzzles of modern archaeology and awaits the discovery of a new Hittite text for its solution. Many attempts have been made to decipher this strange medley of picture writing, but nothing has been proved. For this reason the history recorded on the processional wall may remain wrapped in mystery for many a day to come.

Carchemish. Its rulers, vassals of Assyria, had long been carrying on intrigues with the kings of Egypt, and at last, reinforced by Egyptian armies, had risen in open revolt only to meet disaster; the battle in which this house—and all the city—was destroyed by fire was that of 604 B.C., when, as the prophet Isaiah records, Pharaoh Necho came up and fought with Nebuchadnezzar at Carchemish which is by Euphrates

Archæology has taught us that the history of Europe does not begin with the rise of Athens, and that the roots of its civilization spread farther afield than Greece and Italy. In following up the traces of those peoples, Egyptians, Babylonians, Hittites,

and others who a hundred years ago seemed but symbols of an outer and mysterious barbarism, we are not satisfying an idle curiosity but amassing that historical knowledge in the light of which alone

we can hope to understand the origin and the growth of our modern world. These children of Heth, so far from us in time and space, are yet our forbears, and have helped to make us. We know but little of them as yet. The Great War and the aftermath of the war have sadly interrupted the excavations at Carchemish; but when conditions are more favourable science as well as piety requires that we should start afresh a work which has already yielded such good fruit.



CHARACTERS ON A HITTITE DOOR-JAMB

The Hittite inscription in page 745 is photographed from a paper "squeeze" from the original, on this black basalt door jamb, later re-used and built into a pavement, are to be seen the weird characters as they actually appear.



THE MOUND THAT WAS THE TOWN OF CARCHEMISH ON THE BANKS OF OLD EUPHRATES

Remains of many powers, dynasties and cultures have been unearthed from the mound of Jerablus—an Assyrian fort, Greek remains, and the walls of a Roman military post. But undoubtedly those with the greatest interest for us, human and archaeological, are the ruins that tell the tale of the days when the mound was a flourishing and powerful city, the seat of kings, the centre of empire, a town whose name and people are made familiar to us by the Bible—Carchemish of the Hittites.

The Study of the Past. XV.

Glimpses of Roman Britain

By Gordon Home, F.S.A. (Scot.)

The present chapter offers a general sketch of Britain during the Roman occupation. Further information on the subject will be found in the articles on London's Roman Remains and Hadrian's Wall.

THE period during which Britain was directly controlled by the central authority of Rome was roughly equal to that which extends back from the present time to the middle of the reign of Henry VIII. If, however, one includes the beginnings of Romanisation from the time of Julius Caesar to that of Claudius, and also the last phase, when the Romano-British people were fighting strenuously with the English invaders, the four centuries becomes lengthened by roughly another 150 years, and it may be possible, as our knowledge of the Dark Age increases, to extend this by a generation or two more. Taking the shortest time which can be considered as reliable, we have to add 136 years to about 367, and the total of 503 is equal to the gap which separates us from the reign of Henry VI, when the Age of Chivalry and the Feudal System were still in being.

In the light of these facts it becomes abundantly clear that the comparatively small population of Britain had ample time to absorb the higher level of civilization brought over the Channel by its conquerors. There was time for far-reaching changes in manners, customs, speech, thought, religion, art and architecture, if not quite as great as those which have transformed the present population of Great Britain from its predecessors in the early part of the fifteenth century, certainly in a very decisive manner. By the time of Constantine the Great buildings erected during the governorship of Agricola had become of archaeological interest and even as early as the death of Septimius Severus at York in A.D. 211 there was scarcely a soul alive who could remember the building of Hadrian's Wall.

The adding of Britain to the Empire was not originally planned in Rome as part of a great methodically worked out expansion; its very existence was but vaguely apprehended during Julius Caesar's conquest of Gaul, and the only geographical knowledge of

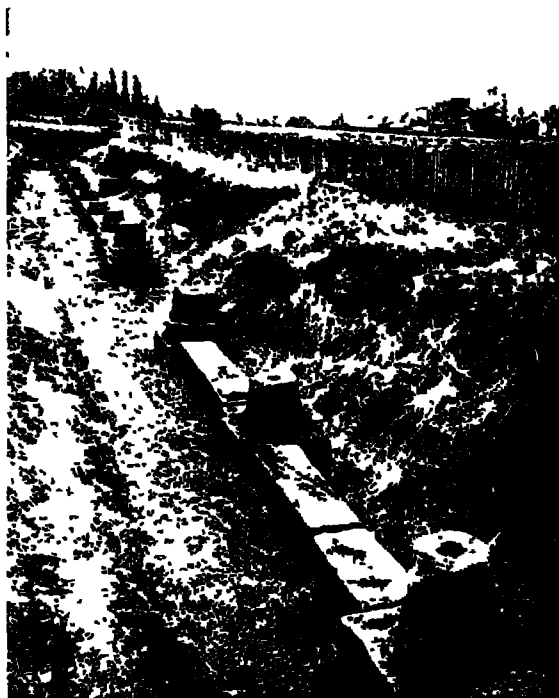
the island available in the first century B.C. was that put on paper by Pytheas, the Greek voyager some three centuries earlier. Caesar's first expedition in 55 B.C. was a reconnaissance in force. The following year, however, witnessed a more serious effort with a large force—Caesar's successful advance to the stronghold of Cassivelaunus near St Albans and the capitulation of that chief of the confederacy of Southern tribes. Having agreed to pay annual tribute to Rome, Cassivelaunus saw with relief the departure of Caesar's forces, and Britain was left alone for eighty-nine years.

In this interval of time, approaching a century the tribute-paying British came more and more in touch with the civilizing influences of Rome. There seems little doubt that the British of this period were good craftsmen, working skilfully in wood and metal. If their architecture was primitive and restricted to timber and thatch, their shipbuilding and wheel-making revealed a high level of brain-power.

In A.D. 43 the Emperor Claudius wished for an opportunity to show the senate and people of Rome that he was as worthy of the purple as his predecessors, and asked himself the question—"Why not add tribute-paying Britain to his empire?"

Accordingly he organized a great expeditionary force consisting of four legions and their auxiliaries, together with a number of elephants which, in the summer of A.D. 43, landed probably on the same part of the Kentish coast as that chosen by Caesar.

The first serious contact with the British appears to have been on the Medway, and the second battle was on the Thames, where it was bridged, and this seems very clearly to indicate London. Claudius had given the command to Aulus Plautius, but probably after the passage of the Thames he arrived in person, bringing much-needed reinforcements with him. The great army then marched on Colchester, and



WROXETER'S ROMAN FORUM

Excavation at Wroxeter (see p. 759) has revealed, among many other wonderful discoveries, the broken bases of the colonnade which once formed part of the forum. An entrance way existed between the third and fourth pillars from the foreground.



By permission of the Ordnance Survey

AUTHENTIC SURVEY OF HIGHWAY AND CITY IN ROMAN BRITAIN

This map is based on the Ordnance Survey of Roman antiquities made, in 1926, in close co-operation with the principal archaeologists of the country. It shows us the highways now accepted as definitely Roman, the roads which authorities agree were almost certainly Roman and Roman military centres. Inset (top right) are maps of the walls of Hadrian and Antonine.

in a third battle somewhere in Essex the confederacy of tribes was defeated and its resistance was at an end. Caratacus (more correctly Caratacus, the Latinised form of the Welsh "Caradoc"), the British leader, fled, and Colchester, his capital, was occupied. Regarding Britain as conquered, Claudius wasted little time before returning to Rome in order that he might enjoy the high emotions of a Triumph. At the end of four years Aulus Plautius had pushed forward so that by A.D. 47 the legions were extended diagonally across the island from Devon to Lincoln.

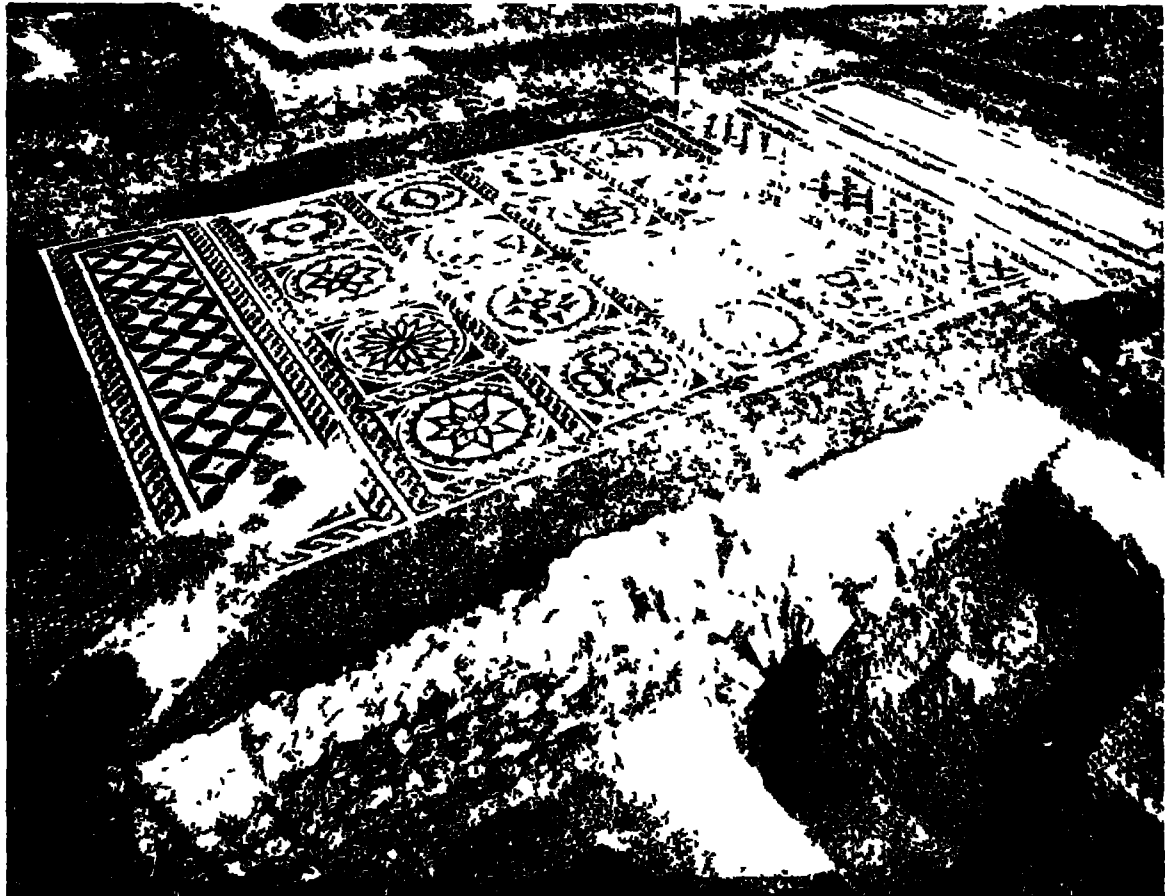
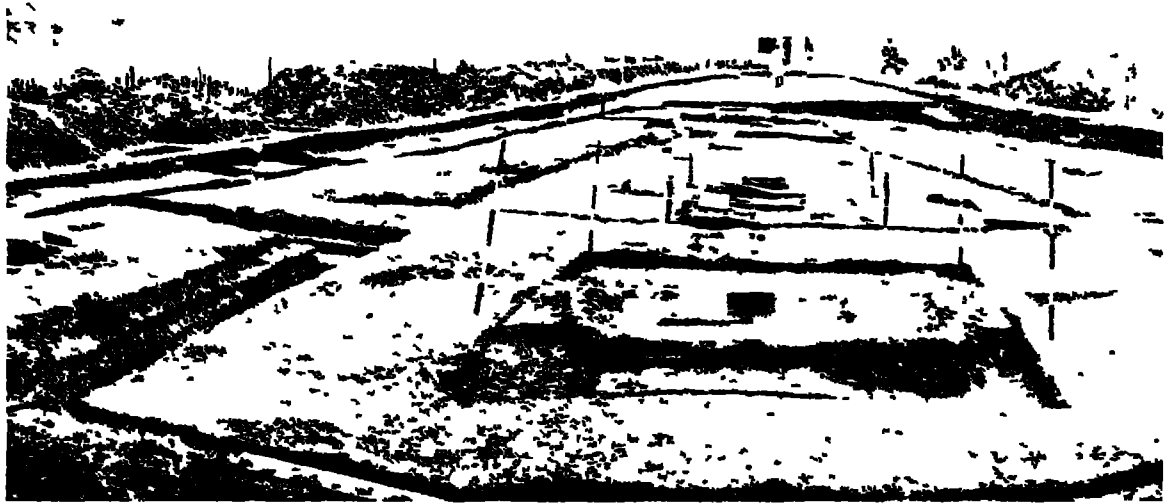
In A.D. 61 Paulinus, the governor, was engaged in the reduction of the tribes of North Wales and was pressing home his victorious advance upon the island of Mona (now Anglesey), one of the great strongholds of Druidism, when the disastrous news reached him that the Iceni of Norfolk had broken out into open revolt under their queen Boudicca (wrongly Boadicea). How the Roman general by

a remarkable success brought victory out of defeat is well known. Boudicca took poison and the rebellion collapsed. From this time forward Lower Britain was peaceful and gradually became a contented and extremely prosperous province of the Roman Empire, its citizens being proud to call themselves Romans. Londinium, which had been burnt by the insurgent Britons, had already begun to assume that ascendancy which it retained until the last. It was not, however, upon the predestined capital of the province of Britannia that Claudius bestowed that honour, for Caratacus had retreated to Camulodunum (now Colchester), which appears to have been his chief or perhaps his most secure stronghold, and in his hurry to get back to Rome the Emperor chose the Trinobantian town. It was soon found that the position was geographically inconvenient, and after its sack by Boudicca's maddened tribesmen it is not mentioned again by Roman historians, although it was rebuilt and grew into a thriving town with the distinctive rank of "colonia."

Londinium, on the other hand, became the chief centre of commerce and administration. Its area, by the time that it built itself a defensive girdle, was the same as that of the London of the Middle Ages,

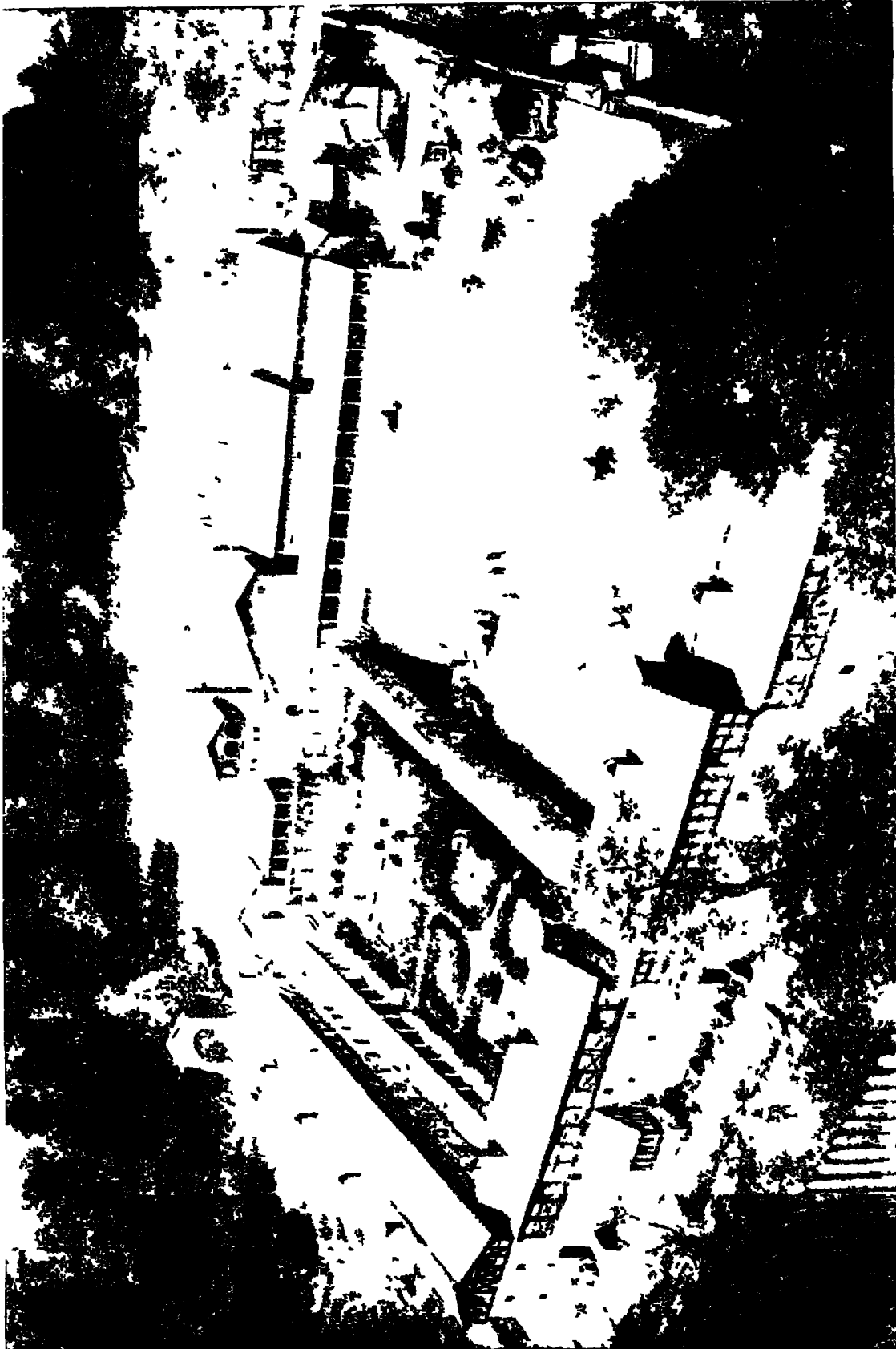
and that bastioned wall, repaired and patched for a thousand years, was still standing complete on the landward sides as late as Elizabethan times.

After the capital, with its area of 350 acres, excluding its suburb of Southwark, the next town in size was Corinium Dobunorum, now Cirencester. Its walls enclosed an irregular oval of 240 acres, and outside them to the west was an amphitheatre (only its earthen mounds now remain), 148 feet by 134. Verulamium, close to St. Albans, which is still an open site and consequently offers a great opportunity to the modern archaeologist, had an area of 203 acres within its walls. It must have possessed very important remains of buildings constructed of brick and flint rubble, for from them the great Norman cathedral of St. Albans was to a great extent constructed. This was the only town in Britain known to have been granted the title of "municipium." It was probably one of the chief, possibly quite the



UNCOVERING THE FOUNDATIONS OF VERULAMIUM

Some of the finest Roman remains in Britain have been unearthed at Verulam, the ancient Verulamium, on the outskirts of St Albans, by Dr and Mrs Mortimer Wheeler. The upper photograph shows the excavated site of a remarkable temple of triangular shape, with sides 100 ft long. Within the central courtyard are portions of the base of an altar and near by an ox's skull, a number of ritual vessels and the bones of birds, mixed with wood ash, have been found. Below is seen a fine mosaic pavement: note the arched flue leading to the hypocaust or heating chamber beneath the floor.



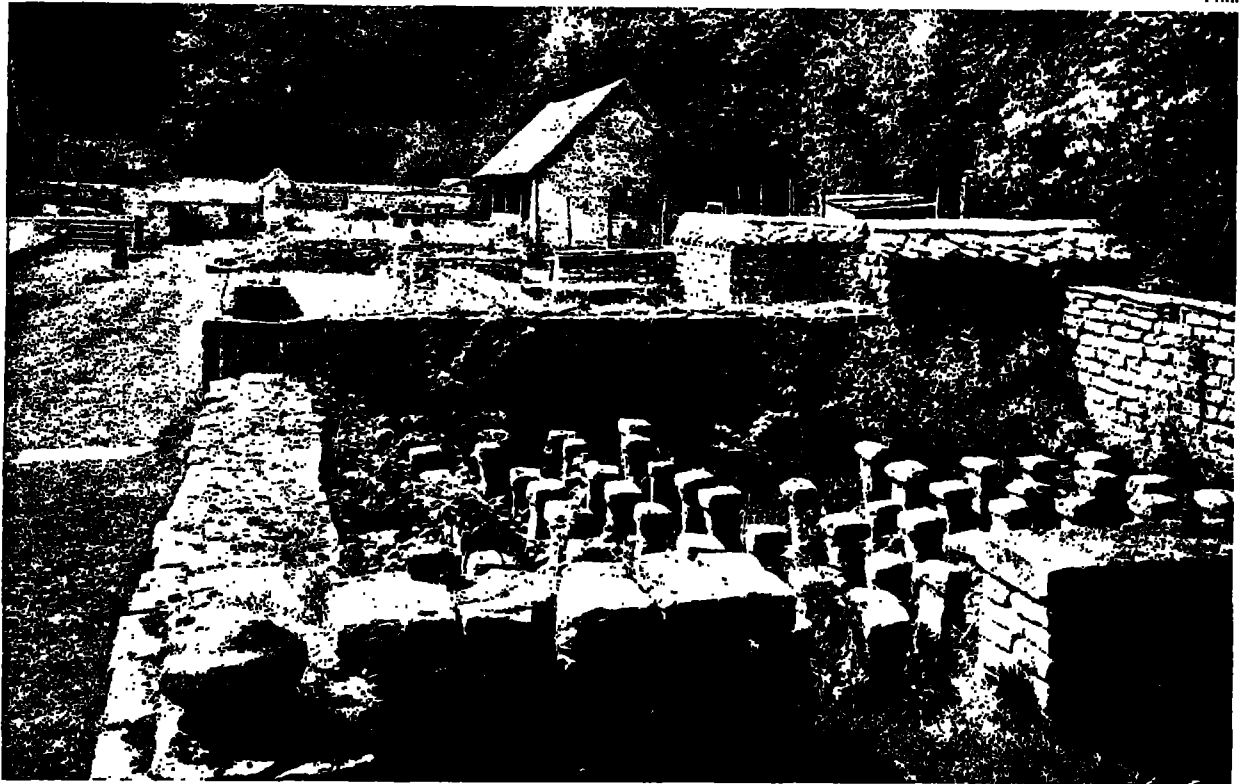
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RECONSTRUCTION OF CHEDWORTH VILLA HOMESTEAD OF A ROMAN COUNTRY GENTLEMAN IN BRITAIN

Scattered over England especially in the southern Midlands and the south are numerous remains of the homes and homesteads of Roman country gentlemen. The most interesting is at Chedworth, near Cirencester. It is a representative example of the courtyard type of villa, as distinct from the corridor house, and this reconstruction drawing by Mr. Forster gives a reliable picture of a provincial gentleman's home in the latter days of the Roman Empire. The dwelling quarters were on the west of the enclosure, and give upon a garden court. In the north wing were industrial buildings with a large east between the corridor and a small court at the north west corner. The present state of the villa is shown in the lower photo in the opposite page.



Frith



Dennis Moore

SURVIVING EVIDENCES OF ROMAN-BRITISH LUXURY

About seven miles out of Cirencester on the Fosse Way to Stow-on-the-Wold is Chedworth village, in the neighbourhood of which are situated some of the best preserved remains of a Roman villa (bottom) in all Britain. There is a bath and hypocaust to supply it with heat, some portions of tessellated pavements and foundations. The Roman Bath at Bath (top), used from about the first to fourth centuries, was discovered in 1755. The columns whose broken bases jut into the water supported a roof. The present pillars and roof are a reconstruction.

most important of the towns of Southern Britain, and was with very little doubt the stronghold to which Cassivelaunus retreated before Cæsar's legions. Excavations made during the last century resulted in the production of a conjectural plan of the streets and the positions of some of the public buildings.

On the Welsh border stood the town of Viroconium, now Wroxeter, having a very roughly oval form like the other places mentioned, and an area of about 170 acres. Here the baths are among the best preserved in Britain, and recent excavations have laid bare a considerable portion of the forum with its shops, in one of which were found great quantities of a pottery merchant's stock.

MORE completely explored than any other town site in Britain is Calleva Atrebatum, the present Silchester, the lay-out of whose streets is now fully recorded, although the 102 acres are once more restored to agriculture. It is in a sense unfortunate that this was only a comparatively unimportant place, for although having some consequence as a centre of local government and, being at a point where five roads met, was no doubt a considerable market, yet it was a second rate town incapable of revealing one quarter of the information which might have been forthcoming had Verulamium been excavated in like manner. The portable discoveries at Silchester are to be seen in Reading Museum, where they are well displayed, and among the smaller objects is a Roman screw, the use of which had been so completely forgotten that it had to be re-invented in our own time. Those who visit the site itself are rewarded by seeing the earthen amphitheatre and the remains of the gateways in the wall of the town.

The plan of Venta Belgarum, a name now converted into Winchester, has not been recovered, and very little has been done to piece together such information as exists concerning the town in the Roman epoch. The "Notitia" (a kind of "Army List") mentions a military clothing factory as existing there in the fourth century, its presence no doubt due to the proximity of the sheep-grazing downlands.

OF Durovernum, which has become Canterbury, the Roman plan exists in part. It appears to have been at first a very strongly walled but quite small place, a centre of defence on the river Stour, at the point in the eastern half of Kent from which the roads to the forts of Regulbium (Reculver), Rutupiae (Richborough), Dubris (Dover) and Lemanis (Lympne) radiated. At a later time it would seem that the town which grew around this citadel was enclosed with a wall, portions of which are incorporated in that which exists to-day. A double gateway of typical Roman form was destroyed about a century and a half ago and a fragment of another is still extant.

At Durobrivæ (Rochester) and Regnum (Chichester) there are remains of the defensive walls, and at Camulodunum and Lindum (Lincoln), where the walls are more extensive, each place has a gate-

way—the latter the best preserved in Britain. In the west there were two or three towns of importance besides Corinium, already mentioned. Glevum (Gloucester) was a "colonia," an honour which it shared with Eboracum (York), Lindum and Camulodunum. These "coloniae" were towns where veterans of the army were settled under very favourable conditions.

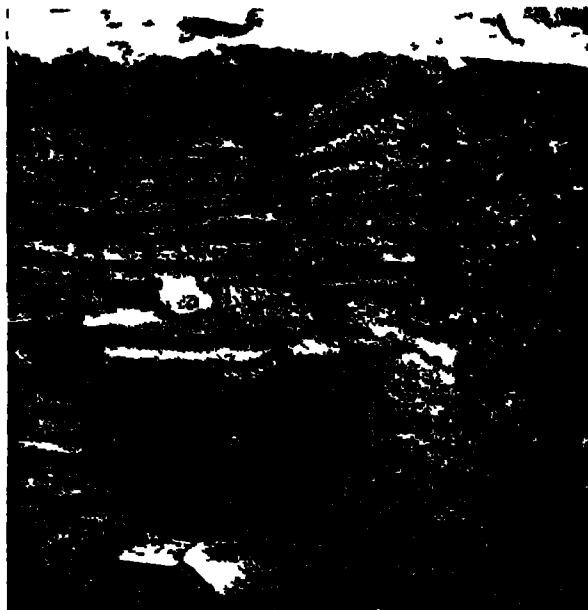
The hot springs which gush forth to-day at Bath poured their steaming waters into the baths of Aquae Sulis some 1,800 years ago, and still do so. Their healing powers were known probably long before the Roman occupation, for the name of the British god Sul is preserved in the Roman appellation. To-day there is perhaps nothing so breathlessly convincing concerning the Romanisation of Britain as that which one finds in the skilfully restored Roman baths by the Avon.

The development of these and at least half a dozen other towns and a number of villages went on without interruption for three centuries. Protected by the Wall of Hadrian between Tyne and Solway, and for a time by the turf wall across the narrow isthmus between Forth and Clyde, and in addition by chains of forts garrisoned by auxiliary troops, the Midlands and the South remained secure.

The Brigantes of what is now Yorkshire broke out again, but they were finally so vigorously punished by Julius Verus, the Imperial legate of the time (c. 155), that they do not again appear in the pages of history. Thereafter the northern warfare was restricted to the frontier walls and the no man's land—the Scottish Lowlands—lying between them.

AT last, however, in about 367 a double disaster occurred, land and sea forces being overwhelmed at the same time, leaving the prosperous midlands and south a prey to numerous marauding bands which swept up and down the country burning, plundering and killing. Owing to the usual security of the frontiers, there were few defences elsewhere, and much hurried walling of towns took place at this time or soon afterwards. The situation was restored by Count Theodosius, who afterwards became emperor, but there seems little doubt that rural Britain was never able to recover completely from this blow.

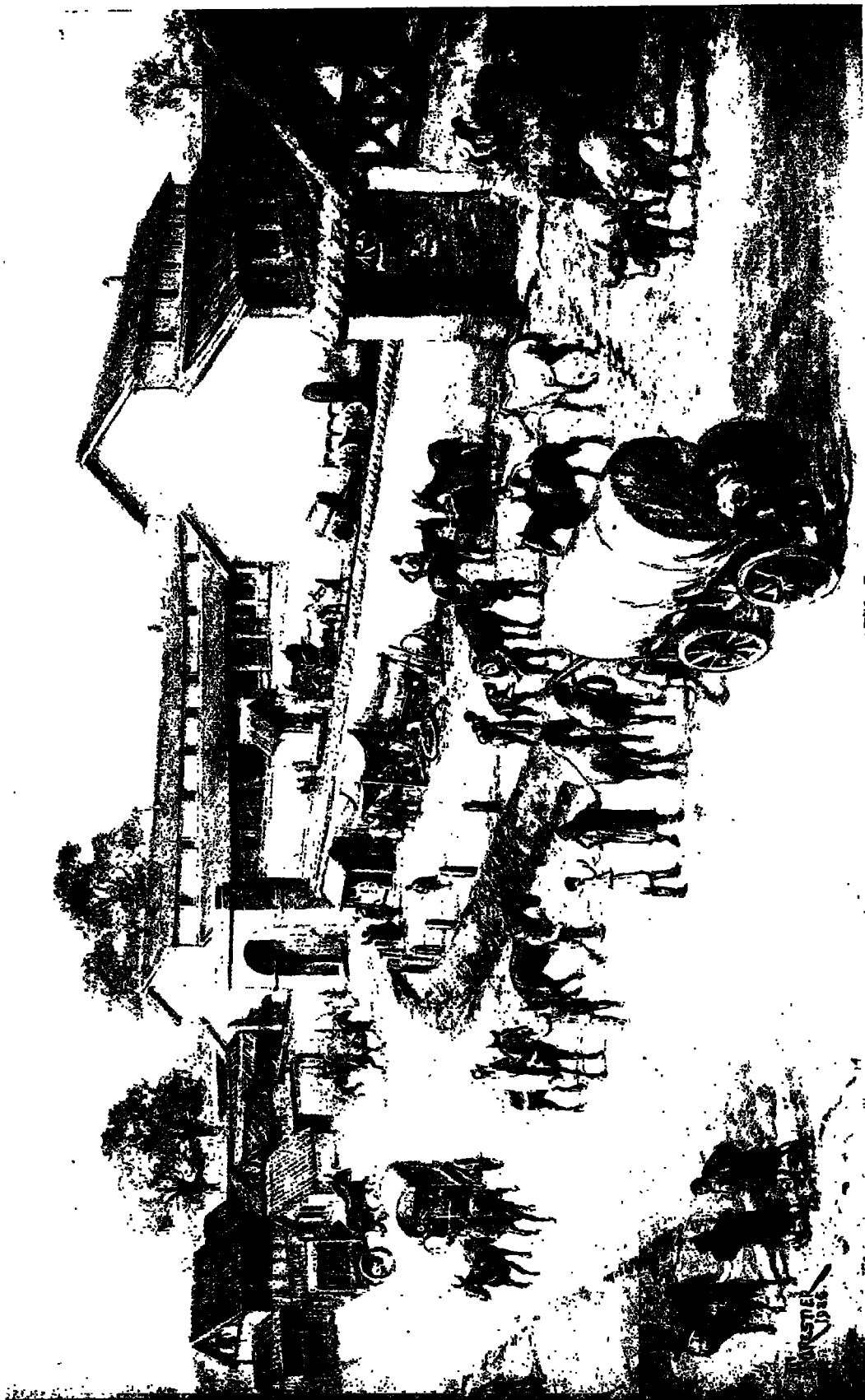
What had been the condition of Britain behind the shield of the legionaries and the large bodies of auxiliaries? How far had the process of Romanisation changed a somewhat primitive people? Certainly their own art was not destroyed, for it can be seen in the designs on their pottery and in sculptured stone. Climate and local conditions and prejudices undoubtedly affected the Roman ideas of domestic architecture, for the Romano-British house did not follow at all closely the Mediterranean type, instead there was a marked tendency to build round a large open courtyard instead of a small shady one. The plans which have been recovered by excavation are of two types, those having a large sunny courtyard, with the main buildings to the north and east in order to catch as much direct sunshine as possible, and the other a smaller type in which the apartments



MORE RELICS OF BRITAIN'S ROMAN GARRISON

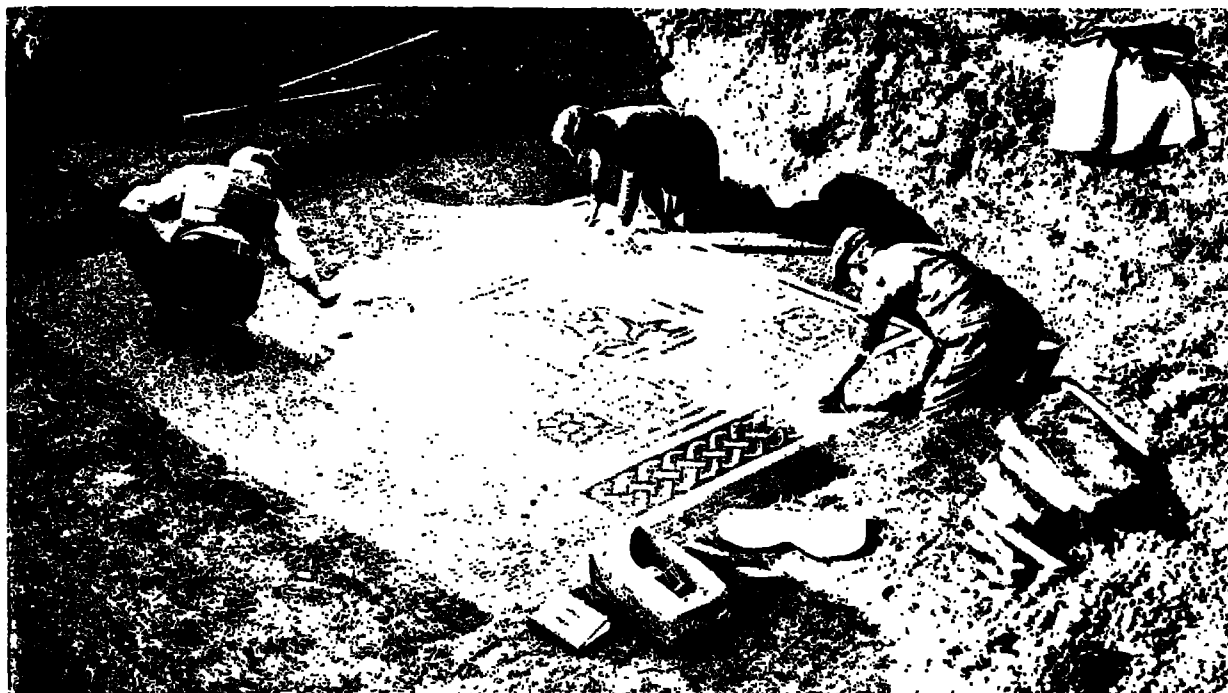
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Best preserved, perhaps, of all the traces of the Roman occupation of Britain are the baths of Aquae Sulis at Bath—the bottom photograph shows the circular bath still virtually in its pristine condition. In the upper photographs are seen (right) a high chest and furnace discovered in the remains of a villa at Darenth, Kent, and (left) a portion of the Roman wall of Kentish ragstone and cement (incorporated in the structure of a warehouse) near the Tower of London, across which the Roman sentinels once paced.



ANIMATION IN A GOVERNMENT HOSTELRY AND POSTING STATION IN ROMAN BRITAIN

Private enterprise furnished the only means of postal communication under the Roman Republic, but under the Empire a postal service arose which was developed by Augustus into a complete government department. Post houses—'mutationes'—were established at distances of from five to eight miles, according to the country, where horses and other beasts of burden could be changed, and postal stations—'mansiones'—were set up at intervals of thirty-five to forty-five miles (a day's journey) containing lodgings for travellers. The communities through whose territories the postal service ran supplied the staffs, postmen, drivers and carts on receipt of the 'diploma' or official order under the Emperor's seal, and they also kept the stables in repair. Remains of a postal station have been discovered at Silchester, upon which this reconstruction drawing by Mr. Forester is based.



ART IN ROMAN MOSAIC AT VERULAMIUM

John Gibson

Digging down through 20 or 30 feet of the accumulated debris of some fifteen hundred years, the Verulamium Excavation Committee have laid bare the foundations of a temple (see page 749), theatre, and a number of large villas. The mosaic floor seen above consists of a magnificently-executed head of Neptune surrounded by geometrical designs.

are all connected by one corridor. The latter are generally smaller than the type with the spacious court.

The houses of any pretensions whose foundations have been brought to light contain a certain number of rooms whose floors are covered with more or less intricate mosaic pavements, some of them heated by the hot air of a charcoal furnace carried beneath them and up a number of flues built into the walls. All the larger houses had their private baths, with elaborate heating by the same hypocaust method. Precisely who were the occupants of these houses cannot be stated, but that a proportion of them were the homes of Romanised Britons cannot be doubted, the wealthier natives of the island having been encouraged from the earliest years of the occupation to adopt the Roman forms of luxurious living in order that they might find more pleasure in developing their home life than in warlike enterprises.

THE basilicas, baths, amphitheatres, temples and other public buildings of Britain, so far as their remains exist or their foundations have been unearthed, indicate that they were well built of brick or local stone. Unfortunately, the search for building material has been so prolonged and so thorough that a very large number of important structures have entirely vanished, and where excavations have brought scanty foundations to light the eye is not easily able to visualise the building which they supported. The amphitheatres at Caerleon,

Caerwent, Silchester, Cirencester, Dorchester and Richborough, although to some extent unsatisfying, are, however, by their dimensions able to impress upon the mind the importance of some of the structures which have vanished.

TOWN life and country life were two very different things in the Roman period, as they are to-day. In many of the essential matters of life the ordinary conditions would resemble those of the smaller country towns of to-day. To the markets came the native farmers anxious to dispose of their produce, and in return for their sales ready to purchase the much needed manufactured goods. In the shops were displayed the finer qualities of earthenware manufactured in the Gaulish potteries, and it would seem that no house was content to exist entirely without the well-glazed imported red ware for the table. In addition purchases of glass and metal goods from the Continental factories, supplemented perhaps with the products of a few centres in Britain, would be freely made. There were the shops which sold tools and implements of native and foreign provenance, others for woven fabrics, including imported silk goods as well as those of mixed silk and cotton. The British-made woollen goods of the heavier type seem to have been of the best obtainable, and were exported to other parts of the Roman Empire, especially the finely woven British cloaks, very popular abroad. The organized amusements of Roman Britain, no



Deville Walker

Adams

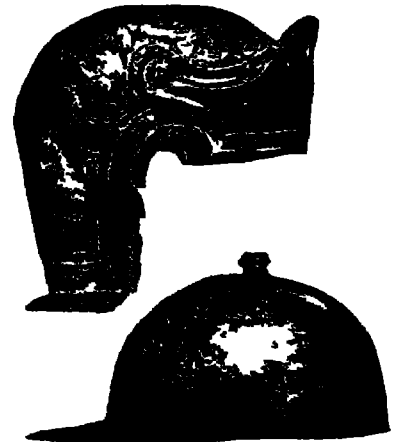
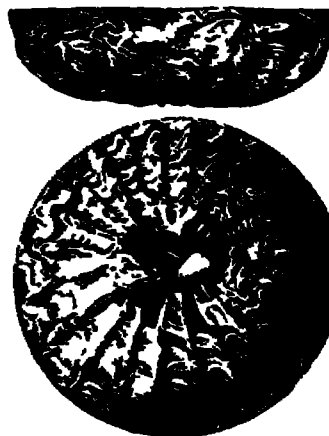
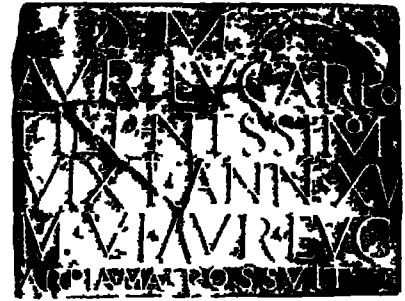
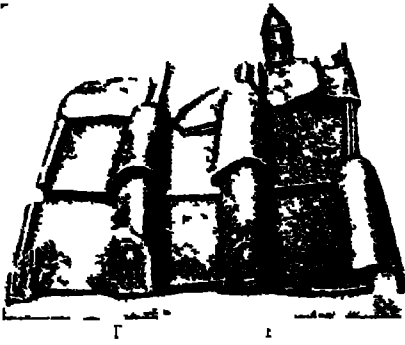
REMINISCENCES OF ROMAN DAYS AT LINCOLN, SILCHESTER, COLCHESTER AND RICHBOROUGH CASTLE

At the end of the street called Bailgate, in Lincoln (bottom left), is the better of the only two surviving Roman gateways in England. The small arch on the right was for pedestrian traffic: the ground level, of course, has risen with the centuries, and the bases of the road arch are now some feet under the ground. At Silchester (bottom right), are the foundations of the earliest Christian church known in England. The pavement seen in the photograph (top left) is at Colchester, in Castle Park. At Richborough (top right), in Kent, are the remains of the barracks of a legion.



EXCAVATING THE GREAT AMPHITHEATRE OF CAERLEON, WHICH ONCE SAW ROMAN GAMES

Just outside the south west gate of Isca Silurum (Caerleon), a Roman military station in Monmouthshire is the great amphitheatre where generations of legionaries watched the games. This arena which it is estimated, could seat about 6 000 people, is situated at the upper end of a meadow which slopes down to the river Usk. The lower photograph shows the earth being carefully removed to reveal the south entrance. The earth is conveyed on a light railway and searched for coins weapons etc. Above is the north side with a main and two smaller entrances.



LAST REMNANTS OF POWAN LIFE TO BE FOUND IN THE MUSEUMS OF BRITAIN

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... the amphitheatre and the scope of the Roman occupation. These move our wonder. But it is difficult to grasp how the material history really felt. A helmet (Brit. Museum) once handled and put on by some swagman. A box in the Museum that containing someone's savings, and glass cinerary urns (Brit. Museum) to hold the ashes of these odd and ends almost pathetic in their forgotten intimacy, make this long-dead life personal and human to us.

doubt restricted to a great extent to the towns and cities, took place very extensively in theatre and amphitheatre. Four centuries after the break-up of the Romano-British civilization, King Alfred mentions the innumerable amphitheatres scattered over the face of the country, and it was these, no doubt, that provided the Romano-British people with everything in the way of spectacle. How far gladiatorial displays figured in the programme provided it is impossible to ascertain, although a memorial to a gladiator has been found in London. It may be that captured enemies taken in northern skirmishes or in the periods of more extensive warfare provided the human material for savage displays of this character, but it is questionable whether anything extensive in the way of professional gladiatorial fighting was common in Roman Britain. There were plenty of other spectacles of an amusing, picturesque or sensational character, and apart from the arena, football, racing and all sorts of games of chance in which dice and counters played a prominent part filled up the leisure hours of many.

It was in the early years of the fifth century that the eastern shores of Britain began to be overrun by Anglo-Saxon bands freshly arrived from the mouths of the German rivers in small flotillas of ships. Their numbers gradually increased and their depredations became more and more serious, until at length the task of defence became almost too much for a country to a great extent stripped of its regular troops for overseas service against other enemies on distant frontiers of the far-reaching empire.

Apart from the civil area of Lower Britain was the military zone, mainly in Upper Britain. In it were the three great legionary bases, those of Isca Silurum, "Caerleon," now becoming better known through the excavations which have revealed more of the stone-built amphitheatre of Legio II "Augusta;" of Deva (Chester), where the museum holds much that is of great interest, and of Eboracum, still possessed of a considerable portion of the Roman walls of its great "castra." In the half-civilized areas beyond these strong military bases were many forts, a number of which have now been carefully excavated and the story of their construction, abandonment and reoccupation pieced together with great skill. These far-flung posts extend beyond the wall of Hadrian,

whose impressive remains still grip the attention of those who find themselves in bleak Northumberland.

Farther north still, beyond the slight remains of the turf wall of Pius between Forth and Clyde, the remains of other Roman forts are to be found, that at Ardoch, north of Stirling, being one of the best preserved. Besides these inland defences there were those of the Saxon Shore—ten strongly built forts between the Wash and the Isle of Wight which played their parts prominently in the defence of Romanised Britain when the numerous raiders escaped the defending fleets.

At some date in the first half of the fifth century Britain became more or less isolated. Communication with the central government of the Empire was cut off and the Romanised Britons were left to organize their own defences. The struggle was prolonged far into the sixth century, until about 582, in a last great battle, the British flag was overwhelmed.

In the chaos during which Britain became England there is little doubt that the civilization which the Anglo-Saxons found did influence them. That many Romano-British inhabitants survived the period of struggle between 400 and 582 seems undoubted, and thus the work of the great Roman schoolmaster was not lost, but out of its apparent failure there grew up from the wrecked province a well-governed nation which has developed into the Britain of to-day.



REMAINS OF BASILICA AND BATHS AT WROXETER

Hard by the village of Wroxeter, six miles south-east of Shrewsbury and situated on the Severn, are the remains of Viroconium or Uiconium, once an important fortified town in a strategic position on the Welsh border. It had an area of about 170 acres, and investigation has revealed part of the basilica, the forum with some shops, and the public baths.



BEHISTUN THE ROCK WHEREON DARIUS GRAVED THE STORY OF HIS CONQUESTS

The long, narrow, precipitous range that skirts the plain of Kermanshah on the east rises abruptly from the plain, and of it the Rock of Behistun is the last peak some 4,000 feet in height. At the foot of the rock bubble up a number of springs. Here, from time immemorial, caravans have halted to water their beasts, and here every army that has marched from Persia has slaked its thirst. The rock became a sacred place. The photograph indicates the difficulty of reaching the inscriptions seen in the centre.

The Great Monuments. VI.

The Rock of Behistun

By R. Campbell Thompson, D.Litt., M.A., F.S.A.

Author of "Semitic Magic," "A Pilgrim's Scrip," etc.

TWO of the most important events in the advancement of historical knowledge have been the discovery of the key to the Egyptian hieroglyphics on the Rosetta Stone and the deciphering of the cuneiform inscriptions on the Rock of Behistun. The former opened the door to the Wonderland of Egyptian history, and the latter brought daylight into the dark places of antiquity in the Middle East, revealing to the modern world the vanished civilizations of Mesopotamia in all the truth of contemporary record. The Rosetta Stone is the subject of another chapter of this work: here Dr. Campbell Thompson, who investigated the Rock of Behistun on behalf of the British Museum, tells its story.—EDITOR.

TWO days' journey south-west from the ancient Summer Palace of Ecbatana, along the old caravan-road leading down to Babylon, a towering rock bastion nearly 4,000 feet high marks the end of one of the many great earth-folds of the crumpled Persian border. At its foot a spring wells out in a broad pool, and meanders across the rich, broad vale of the Karkhah, where the rains of spring are kindly and deck the plains with grass and the mountain crannies with flowers. Here, between scaur and well-head, where slow caravans have crawled the ages through, the well-worn track passes the sordid little village of Behistun. More than five hundred years B.C. the Great King, the King of Kings, the King of Persia, the King of the Provinces, Darius, took counsel where he should worthily grave the story of his reign. It must be set in a place which all should see, and yet be safe from the ravages of time and the malice of enemies; it must be written in several languages, that foreigners as well as Persians might know his glory; it must be shown in picture as well as in the written word, that those poor illiterates who could not read might yet tremble at the great

king's vengeance. His choice fell on this rock-face at Behistun, a hundred feet and more above the pool, in a gully masked by the last crags. In 516 B.C. his scribes composed the great history in three languages, and in Persian, Susian, and Babylonish cuneiform the engravers chiselled it in thirteen columns in the smooth vertical surface, and then, above the five tall columns of Persian writing, twelve feet high, his artists carved a delicate panel with a life-sized figure of the king in relief, receiving the submission of ten rebel upstarts who had challenged his right to the throne

In course of time the Achaemenid kingdom went the way of other Oriental monarchies, leaving the dumb witness of ruined cities, sculptures, and above all, this great rock-picture, safeguarded by its height above the road, to testify to a power long dead. Legends grew fast round such a marvel, and travellers carried away strange tales of its rugged scarps, inscribed with unknown writings. Diodorus, a contemporary of Julius Caesar, called it the "Bagistanon" mountain, the forerunner of its modern name, and told a wonderful tale how Semiramis, Queen of Babylon, ordered it to be carved, climbing the face of the





DARIUS THE GREAT IN THE HOUR OF VICTORY

Part of the sculpture on the Rock of Behistun (or Bisutun), on which Darius I. (548-485 B.C.) caused to be depicted a lasting record of his victory over those who disputed his right to the Persian throne. He is seen here, the third figure from the left, accompanied by two of his attendants, and with his left foot planted on the body of the usurper Gaumata, who claimed to be Smerdis, the brother of Cambyses, and whose hands are raised in an attitude of vain entreaty to his conqueror.

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THE GREAT TRIUMPH OF THE PERSIAN KING DEPICTED ON THE ROCK OF BEHISTUN

View of the greater part of the panel, 10 feet high and some 18 feet in breadth, showing Darius triumphing over the ten rebel upstarts who had defied him. Height of the figures : Darius, second from the left, 5 feet 8 inches ; of the two attendants (only one of whom is shown), 4 feet 10 inches ; of each prisoner, 3 feet 10 inches. The king has his right hand raised towards the god Auramazda (3 feet 9 inches high, by 4 feet 2 inches wide), who appears amid rays of light and lightning. In his left hand Darius grasps a bow. The nine rebel leaders, apart from Gaumâta, are roped together, and their hands are tied behind their backs. Their names are given in page 767. Below the panel five tall columns of Persian writing tell the story of the vengeance of the great king.

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mountain on a heap of pack saddles from her baggage train piled against the rock. The place was held sacred, said he; and to this day the Persian women come to hang their little votive scraps of rag on a bush beneath, as though it were some saint's tomb, in token of their dues to its mystery. Others who visited Persia in later times spoke of its wonder when they returned to Europe; many let their fancy run wild in their explanation of its meaning. Bembo in the seventeenth, Otter in the eighteenth century, tells of it; nay, Gardanne in 1809 avers that the picture is meant for the Twelve Apostles, and Ker Porter in 1827, hardly less fanciful, thinks it to be Shalmaneser and the captive Tribes of Israel.

In 1835 Henry Rawlinson, a young English soldier, twenty-five years old, was sent as Assistant to the Governor of Kermanshah. His attention was turned to the cuneiform inscriptions at Elwend near Ecbatana, and, as a soldier whose scholarly side ill brooked long periods of boredom, he set himself to decipher the strange unknown tongue in which they were written. In his "Memoir" he says that he was aware that a German professor, Grotefend, about the beginning of the century, had deciphered some of the names of the early sovereigns of the house of Achaemenes, but in his isolated position at Kermanshah he could neither obtain a copy of the German's alphabet, nor discover which were the inscriptions that he

had used. Actually Grotefend had made out the names of Hystaspes, Darius, and Xerxes from two short inscriptions accurately copied by Niebuhr at Persepolis in 1765, subsequently discovering the name of Cyrus, and from these he was able to assign correct values to about a third of the old Persian cuneiform alphabet, which consists of between forty and fifty characters. Closely after his labours must be reckoned those of Professor Lassen, who had deciphered about six more characters by 1830, and the names Tychsen, Munter, Burnouf, Rask, Bœr, Jacquet, and Saint Martin must be accorded full title to their share in the decipherment of the inscriptions.

None of the work of these scholars had as yet reached the young Englishman, who applied himself to the task of decipherment unaided. There was no Rosetta Stone to give the translation of the strange characters; nothing but the unyielding problem of unknown names. Unconsciously he followed the method which Grotefend had employed. He compared two inscriptions, in this case at Elvend, which had been set up side by side, and found that they were identically the same except in two short passages of a few characters each.

But the *first* of these two groups in the first inscription coincided with the *second* group in the second inscription, and Rawlinson's genius suggested, first, that these groups must be the names of kings concerned in setting up the inscriptions, and second, if so, the first name in the first inscription must represent the father of the king who set up the second. He was right. He took the names of the three most famous Persian kings in history, Hystaspes, Darius, and Xerxes, applied them to his theory, and found that the values for the characters which their names provided stood the test wherever the same characters reappeared in the names. The threshold was crossed.

But although Rawlinson, as well as foreign scholars, had so brilliantly deciphered the value of some of the characters, the names of some of

the kings, and even of countries mentioned in the text, the meaning of the inscriptions and the language in which they were couched were still a sealed book.

The Englishman had long been attracted by the problem of the Behistun inscription, and during

his sojourn in Persia he set himself to unravel its meaning. By the end of 1837 he had so far overcome the difficulties involved in scaling the rock-face and copying the cuneiform text, that he had completed a version of about half of the Persian text, and in this year he forwarded to the Royal Asiatic Society, which has always shown a deep appreciation of scholarship of this nature, a translation of the two first paragraphs of the Behistun inscription, recording the titles and genealogy of Darius. Unfortunately he was compelled to break into his studies by his being transferred from "the lettered seclusion of Bagdad to fill a responsible and laborious office in Afghanistan," but 1843 again found him in the City of the Caliphs, eager to continue his labours. For many years past he had applied himself to Zend, the oldest Persian dialect then known, and it was his application of this language



CROWNED HEAD OF KING DARIUS

Enlarged photograph of the head and torso of King Darius. The features are obviously different from the Assyrian type (compare the colour plate opposite), but their general treatment and the dressing of the beard follow the canons inherited by the Persians from their predecessors, the rendering of the eye, however, being more natural.

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to the Persian cuneiform inscriptions which brought about his extraordinary exploit of translating the whole of the Persian inscription of Behistun for the first time. His decipherment of the characters which composed the proper names allowed him first to transliterate the inscription and so know how the words sounded, and his genius for languages then led him to their correct affinities with other dialects. His "Memoir," giving a complete translation with notes was published in 1846.

Lassen, however, must not be forgotten in according the due meed of praise to the pioneers of translation as well as decipherment, for he, too (independently, but simultaneously with Rawlinson), applied himself to the Persepolitan inscriptions with definitely satisfactory results, publishing his rendering of them in 1844.



BEARDED HEAD OF AN ASSYRIAN PRIEST OR WINGED DIVINITY

In the art of ancient Assyria the gods and men were shown with full beards and a wealth of hair as in this fragment of a relief discovered among the ruins of the great city in the Tigris. The bearded priest or god wearing a diadem or chaplet, is of the Semite type common in Assyrian monuments and it is supposed that the Semite race in Assyria was the first to give a personal embodiment to the gods of the local mythology.

From Sir Austen Henry Layard's "Monuments of Nineveh" published by Mr. John Murray.

Rawlinson was not content only with the Persian part of the inscription. In 1844 he once more, this time with two companions, climbed the rock, crossed the chasm between the Persian and Susian columns, and copied the Susian version. Again in 1847 he hoped to attack the Babylonian version, which is cut on two faces of a ponderous overhanging boulder above the sheer face of the Susian columns. To this he did not himself climb, but found a Kurdish boy who scaled the height from a flank, and in a swinging seat took squeezes under Rawlinson's direction.

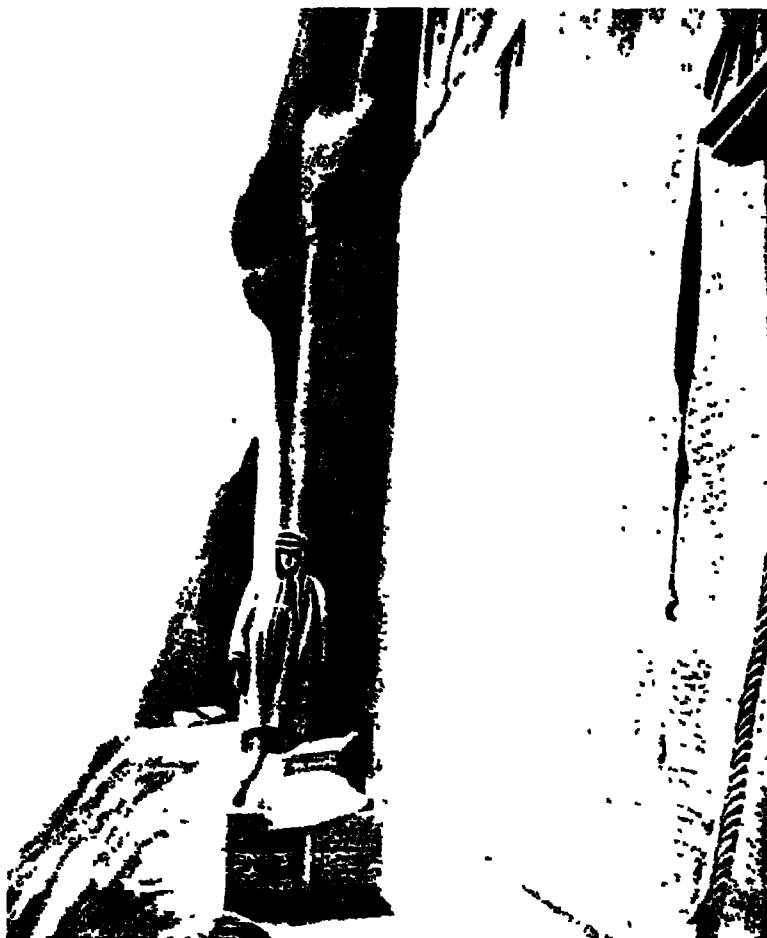
With the Persian version now thoroughly understood, it was only a matter of time to elucidate the Susian and the Babylonian. The former yielded to the energy of Hinks, Westergaard, de Saulcy, and particularly Norris, the latter to Rawlinson, Hincks, Oppert and Fox Talbot, who showed that the Babylonian was a Semitic language allied to Hebrew. The great problem of cuneiform had been solved.

Subsequently Professor Williams Jackson in 1903 visited the inscription, and, climbing to the Persian ledge, re-examined the lower part of this text. But by this time the squeezes which Rawlinson had made of the inscription and stored in the British Museum were decaying, and particularly the Babylonian version, read thus from squeezes, was probably capable of considerable improvement. It was obvious that any advance in our knowledge of this text, Persian, Susian and Babylonian, must be made by a collation of the Rock itself, and in 1904 the Trustees of the British Museum decided to send an expedition down to the Rock.

To this end Dr. L. W. King, and I as his junior, left Mosul in April, 1904, for Behistun. On our arrival there our first view of the inscription suggested that it must first be attacked from behind, and a spot was found two hundred feet above the sculpture, whence we could shake down two ropes until they reached its face. Then, after scaling the rock from below to the ledge of the base of the inscription, we were able to tie two cradles to these ropes, adding lengths of stouter rope wherewith we might climb into them.

The first part of the ascent from below was an almost perpendicular scramble of 12 feet or so, with handholds on tufts of grass, and footholds on soil or projecting stone; thence upward, in a gentle ascent to the right, the line of approach lay along the smooth rock, broken only by one gap with a sheer long drop to earth beneath. From here the way up was comparatively easy to the right-hand side of the Persian inscription. After we had evolved this route together, happily without native help, pegs and a rope-rail were fastened along it, making the daily climb a trivial matter.

Rawlinson, "Archæologia," xxxiv., 1853, 74, says: "Notwithstanding that a French antiquarian commission in Persia described it a few years back to be impossible to copy the Behistun inscriptions, I certainly do not consider it any great feat in climbing to ascend to the spot where



MASSED COLUMNS OF THE PERSIAN INSCRIPTIONS AT BEHISTUN
Darius caused the inscriptions on the Rock of Behistun to be carved in three languages. The five columns of the Persian text are seen on the right of the photograph. They vary in height from 5 feet 8 inches to 12 feet 1½ inches, and in width from 5 feet to 6 feet 1½ inches.

By permission of the Trustees of the British Museum



WHERE SCHOLARS CLIMBED TO READ THE STORY OF THE GREAT KING'S REIGN

This photograph gives a more comprehensive front view of the rock sculptures and inscriptions, and should be compared with the illustration in p. 103. On the overhanging rock is the Babylonian cuneiform below it and extending to the left, are the three Susian columns with the carved rock lower still, while to the left of the standing figure are seen the sculptured panel and first three columns of the Persian text, the remaining two being hidden by the rock face on the right of the photograph.

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the inscriptions occur. When I was living at Kermanshah fifteen years ago, and was somewhat more active than I am at present, I used frequently to scale the rock three or four times a day without the aid of a rope or ladder without any assistance, in fact, whatever. During my late visits I have found it more convenient to ascend and descend by the help of ropes where the track lies up a precipitous cleft and to throw a plank over those chasms where a false step in leaping across would probably be fatal. The Babylonian overhang, however, he did not copy himself but, as is mentioned above, sent a Kurdish boy up to take squeezes. "The cragsmen of the place declared the particular block inscribed with the Babylonian legend to be unapproachable."

Beneath the fifth Persian column was a ledge of some six feet which narrowed almost to nothing near the first column, beyond which, on a salient face, were the three columns of the Susian of the same height as the Persian, but across a chasm, of which Rawlinson had spoken. In front of these, too, was a ledge, which we found could be easily reached by swinging across on our ropes. The Babylonian, written on an overhanging boulder twelve feet above this, was a more difficult problem. From a vantage-point high above the

inscription our men could raise or lower the cradles to the right height on the face of the inscription, or to the sculpture above the Persian columns, after they had made fast the ends above, we climbed into the cradles and thus sat, collating and photographing the inscriptions and sculptures for the next sixteen days. We were able to reach and collate the Babylonian overhang by swinging across to the Susian ledge and then climbing the ropes to a ledge above the Susian, and thence, again sitting in the cradles, working our way round the inscribed face of the boulder by hands or knees. The great sculpture was photographed with a hand camera either from here at an angle, or piecemeal direct at five feet distance by pushing the cradles away from the rock with our feet. The results were published by the Trustees in "The Inscription of Darius the Great at Behistun," where full details and photographs will be found.

Throughout, what was most striking was the great accuracy of Rawlinson's copies. The five Persian columns alone contain more than fifteen thousand characters, and his work showed surprisingly few errors, considering the difficulties of every kind with which he had to contend.

The inscription itself tells the ancient glory of Persia at its zenith, before Darius had challenged

the Greeks and had been defeated in 490 at Marathon. It begins with the genealogy of Darius, traced direct to Achæmenes and then refers to the reign of Cambyses who had preceded Darius, the murder of Smerdis (the brother of Cambyses), and the revolt of the Persians during the absence of Cambyses on his campaign in Egypt. At this moment Gaumata, the Magian, seizing his opportunity, declared himself to be Smerdis, the son of Cyrus with a claim to the throne. Cambyses hastened homewards but died on the way, and Gaumata as the Babylonian contract tablets show, held sway for a brief period.

It was Darius, the son of Hystaspes, who challenged the usurper, and, marching against him with a small force slew him and took the throne. But revolts broke out in many of the provinces, and the first years of Darius were spent in subduing them. Nidintu-Bêl seized Babylon, claiming to be Nebuchadnezzar, Martiya headed a revolution in Susiana in Media Phraortes gave himself

out to be Khshathrita, or the son of Cyaxares, and led another revolt. These were dealt with successfully, and the unfortunate pretenders are to be seen with several others equally unsuccessful, on the sculptured panel above the inscription.

The king stands with his arm raised and his foot on Gaumata, behind him are his generals or satraps. Before him, roped one to another, come the recalcitrant chiefs in the following order: Atina the first Susian pretender, Nidintu Bêl, of Babylon, Fravartish (Phraortes) of Media, Martiya the second Susian pretender, Citrantakhma, of Sagartia, Vahyazdâta, the second pseudo Smerdis, Arakha, the second Babylonian pretender, Frâda, of Margiana, and subsequently, at the cost of destroying part of the Susian inscription Skunkha, the Scythian, in his high peaked hat was added.

It is a nice point whether the inscription is a finer memorial to the Persian, Darius, who wrote it, or to the Englishman, Rawlinson who deciphered it.



DARIUS GIVES THANKS TO THE GOD AURAMAZDA FOR HIS VICTORIES

This drawing gives a clear impression of the sculptured panel on the famous Rock of Behistun, of which sectional photographs are given in the preceding pages. The bearded figure of Darius, the prostrate form of the Magian Gaumata and the figure of Skunkha, the Scythian, in his high pointed cap may here be studied as a whole, while above is seen the god, Auramazda, bearded, wearing a cylindrical headdress and horns, surmounted by a solar disk, with a small double disk in the centre from which light rays project. The right hand of the god is raised showing the palm, in his left hand he holds a ring on each wrist he has a bracelet, and he is arrayed in a plain robe with open hanging sleeves fastened round the waist by a girdle. Auramazda stands within a circle, from which issue flames or rays of light and below him, on each side, is a flash of forked lightning.



WINGED AND MAN-HEADED LION FROM THE PALACE OF ASHURNASIRPAL

The most familiar features of Assyrian art are the mythical man headed monsters—bulls and lions—which guarded the gateway of temples and palaces. Note how the sculptor, still in the transition stage from working in relief, has given his subject three forelegs, so that it may appear to have two whether viewed from the side or from in front. The hindquarters being recessed against the gateway and continuous with the walls of the building, are innocent of this subterfuge.

Courtesy of the British Museum

The Royal Palaces. VIII.

Splendours of Nineveh and Khorsabad

By Lewis Spence, F.R.A.I.

Author of "Myths and Legends of Babylonia and Assyria," etc.

NINEVEH, the royal city of ancient Assyria, stood on the sites of what are now known as Kouyunjik and Nebi Yunus, on the east bank of the Tigris. Calah, the modern Nimrud, was a suburb outside the walls; and in the days of Sargon II. and his son Sennacherib the city extended as far north as Dur-Sharrukin (city of Sargon), or Khorsabad.

Assyria was pre-eminently a nation of soldiers, a warrior-state whose monarch was the head of a great general staff, whose ministers were field-marshal. It toiled not, neither did it spin. Its necessities, its food-supply, even its playthings, were wrrenched and looted from the unhappy peoples who surrounded it. Its builders and labourers were prisoners of war. Its rulers transplanted entire tribes and nations from one part of their dominions to another, uprooting them as they uprooted the cedars of Lebanon for transplantation in the avenues of their wonderful metropolis. Every Assyrian was a soldier. With this people trade did not follow the flag—rather was it driven at the spear's point to Nineveh.

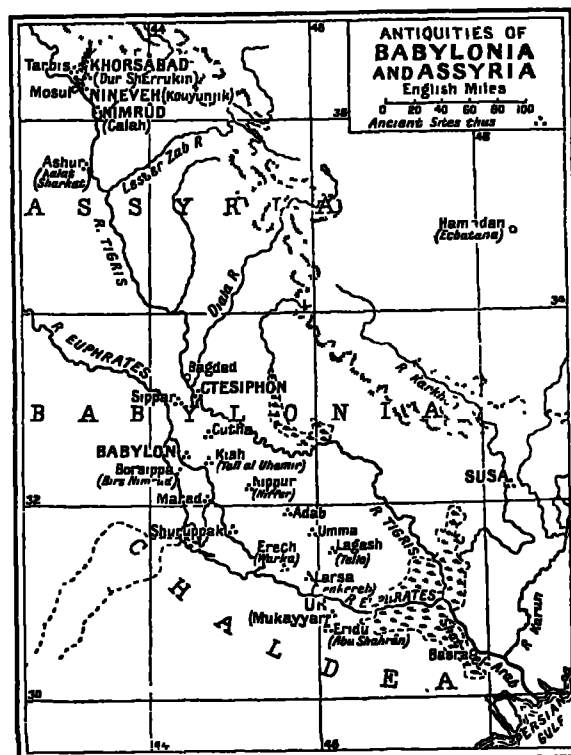
Behind this ruthlessness lurked the sinister shape of Ashur, the tutelary deity of the soil. So that vast temples might be raised to the glory of Ashur, continual war was waged and tribute levied, and so that his fanes might be filled with magnificence, the bodies of countless slaves in many a distant province were bastinadoed into intensive production. Asia Minor groaned beneath the rod of Ashur. Even Cyprus and the isles of

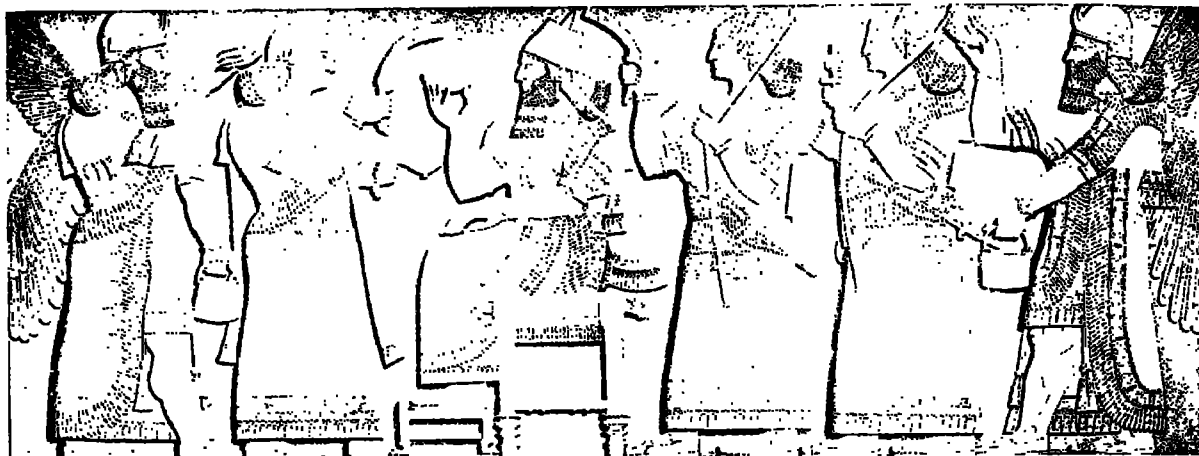
the sea were not immune from his tribute. From all four points of the compass, from Palestine and Philistia, from the mountains of Kurdistan, from Elam—ay, even at times from Egypt itself—a limitless wealth of impost poured into the coffers of his priesthood. To-day the metropolis of his worship is a range of low mounds, over which in the season of monsoon the desert sand drifts in slow-gathering wreaths.

Assyria was colonised from Babylonia. The date of its settlement is uncertain, but Nineveh was in existence in 3000 B.C. The early rulers appear to have been subject priest-princes of the kings of Babylonia; but nothing in the nature of separate dynastic rule seems to have been known until the middle of the nineteenth century before Christ. Its inhabitants had probably a deeper Semitic tinge than those of Babylonia. They were, indeed, first cousins to the Hebrew people,

and spoke a language resembling the speech of neighbouring Judea.

After its destruction by the Medes in 606 B.C., the very situation of Nineveh had vanished so utterly from human recollection that when Xenophon and his Ten Thousand passed its ruins two hundred years later, they concluded that they must represent the remains of a Parthian city. Later travellers, sojourning at the Arab town of Mosul, and looking out over the Tigris, saw a range of low mounds on its opposite bank. The Arabs assured them that the locality of these was haunted by hordes of jinn, and that gigantic creatures half-man, half-bull,





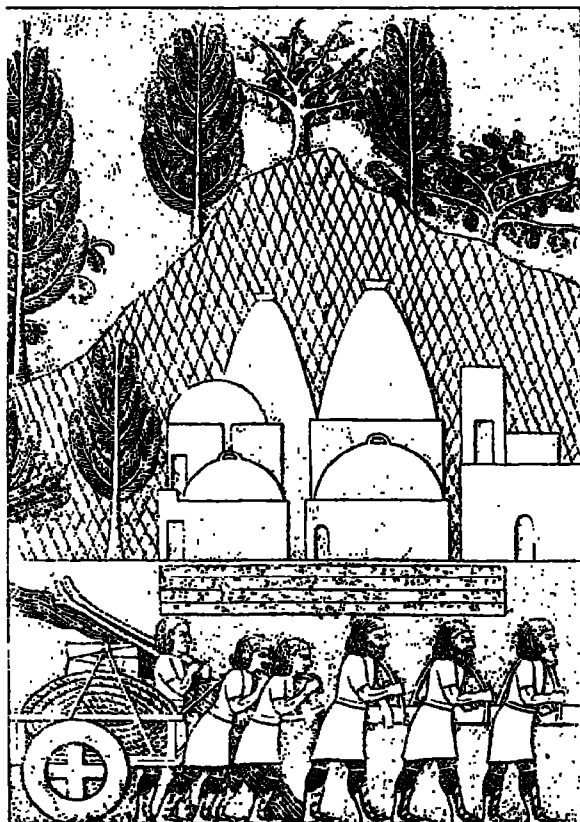
THE ASSYRIANS HAD ELEGANT TASTE IN FURNITURE AND EMBROIDERY

Part of the internal decoration of the north-west palace at Nimrud excavated by Sir Henry Layard, this bas-relief shows the king on his throne in ceremonial attitude. The eunuch standing before him holds the cover of the sacred cup in the hand of the king, also the royal fly-whisk—there was one power in Mesopotamia which has never relaxed its dominion! Two other eunuchs carry the king's trappings—fan, mace, bow, and quiver—and winged genii flank the group. Garments and arms are all elaborately executed.

From Layard's "Monuments of Nineveh"

lurked in their recesses, the guardians of treasure believed to be buried there.

The faint voice of legend associated these



ROOFS ARE STILL SHAPED LIKE THIS

A contemporary picture of two Assyrian dwelling-houses, from a bas-relief unearthed by Sir Henry Layard at Kouyunjik, shows how building styles have scarcely changed to-day in the land. They stand, apparently on a platform, at the foot of a hill clad with fruiting vines and cypress.

tumuli with the name of lost Nineveh, and the more curious among the travellers, who took the trouble to inspect the mounds at close quarters, observed that large fragments of alabaster, engraved with characters like the heads of arrows, jutting in places from the hillside, interspersed with shards of pottery and sun-dried bricks. But men of science in Europe were by no means sanguine that these vast rubbish-heaps held all that remained of the once-glorious city of Sennacherib and Sardanapalus. A small band of exiled Britons, merchants and political agents for the most part, had, however, more than an inkling that ruins of considerable extent and interest awaited excavation beneath the mounds of Kouyunjik, Nebi Yunus, Nimrud, and Khorsabad.

One of them in particular, Austen Henry Layard, had seen enough to make it impossible for him to leave Mesopotamia without putting his beliefs to the proof. In 1845 he recruited a band of workmen from among the unruly Arab tribes in the neighbourhood, and with amateur enthusiasm began to probe the mounds of Nimrud and Kouyunjik. On the very first day of his venture he unearthed the remains of a palace, in the bizarre friezes and sculptures of which he found nothing reminiscent of classical art.

Feverishly he proceeded with the task of excavation. Each day brought to light fresh marvels of sculpture and architecture. Immense stone figures of mythical monsters, with the bodies of winged bulls and the bearded faces of men, marked where the portals of a great city had stood. On immense slabs of gypsum the conquering progress of warlike kings through strange lands was depicted in spirited bas-relief. Traces of fire and ruthless destruction were everywhere, and the

shadow of ruin and desolation immeasurable hung over the excavated interiors. But, however ruinous, however desolate, Nineveh the lost, "the glory of kingdoms," had been re-discovered. The news spread through Britain like fire, arousing a popular interest before which that displayed in the recent finds in Egypt pales into insignificance.

Nineveh was in its hey-day from 722 to 606 B.C., or during that part of its history when the accomplished and statesmanlike



PLASTIC ART OF ANCIENT NINEVEH

Colossal lion inscribed with the names and titles and military prowess of Ashurnasirpal II., King of Assyria, 883-850 B.C. The statue, which displays remarkable skill on the part of the sculptor in his effort to reproduce in stone an appearance of the virility and movement of the animal depicted, was found in the Temple of Enurta at Nimrud.

Courtesy of the British Museum



ASHURNASIRPAL II.

The only perfect Assyrian royal statue in the round. Standing on its original limestone pedestal, it is from the Temple of Enurta at Nimrud.

Courtesy of the British Museum

dynasty of the Sargonids occupied the throne of Assyria. None of that gifted line did more for its embellishment than Sennacherib, who flourished during the closing years of the eighth century before Christ. If he is popularly remembered as "the Assyrian" who "came down like a wolf on the fold" of beleaguered Jerusalem, it is hardly necessary to say that no mention of his overthrow on that occasion is to be encountered among the many boastful inscriptions which vaunt his prowess in war. Indeed, in one of them he assures us that he shut up Hezekiah, King of Jerusalem, "like a bird in its cage," and wrung from him an indemnity worth in modern currency about £9,000. But it seems possible that the swift disaster which is spoken of in the Second Book of Kings as having overtaken his army was of the nature of a pestilence or epidemic—influenza, it has been prosaically suggested.

Sennacherib does not appear to have possessed the extraordinary talents of his father, Sargon II., but he was by no means the least of those Assyrian kings who moulded the nation into a huge military machine, a veritable human "steam-roller," which hurtled over the lands of Asia Minor and Syria, crushing the lesser peoples out of existence, and levelling cities so that not even their dust remained—for this was actually gathered into baskets, carried to a distance, and cast to the four winds of heaven.

Vast and splendid as Nineveh had been before his day, he greatly extended its bounds, reconstructed its palaces and temples, and gathered within its walls such a treasure from the looted towns of Syria and Palestine as made it by far the wealthiest and



HOUNDS DEPARTING FOR THE CHASE

Representations in terra cotta of the hunting dogs of Ashurbanipal. With tightened leash, straining bodies, and tension of every muscle, they are lifelike in the extreme Assyrians buried figure of dogs under the thresholds of their houses so that the spirit of the animals might prevent agents of evil from crossing them.

Courtesy of the British Museum

most resplendent capital of the known world. It is the Nineveh of Sennacherib's day that we must try to reconstruct if we would glimpse one of the most gorgeous pageants of empire the world has ever seen.

From the first Sennacherib seems to have been obsessed by the idea of a new Nineveh, much as Napoleon III in modern times was by that of a new Paris. Shortly after he came into power he constructed an outer wall and an inner rampart, more probably to keep in employment the thousands of foreign captives his father had brought to the capital than because these defences were really necessary, for the walls which already enclosed the city seem almost to have ranked as among the wonders of the ancient world. Their height has been variously computed as from fifty to even one hundred feet, and their breadth is

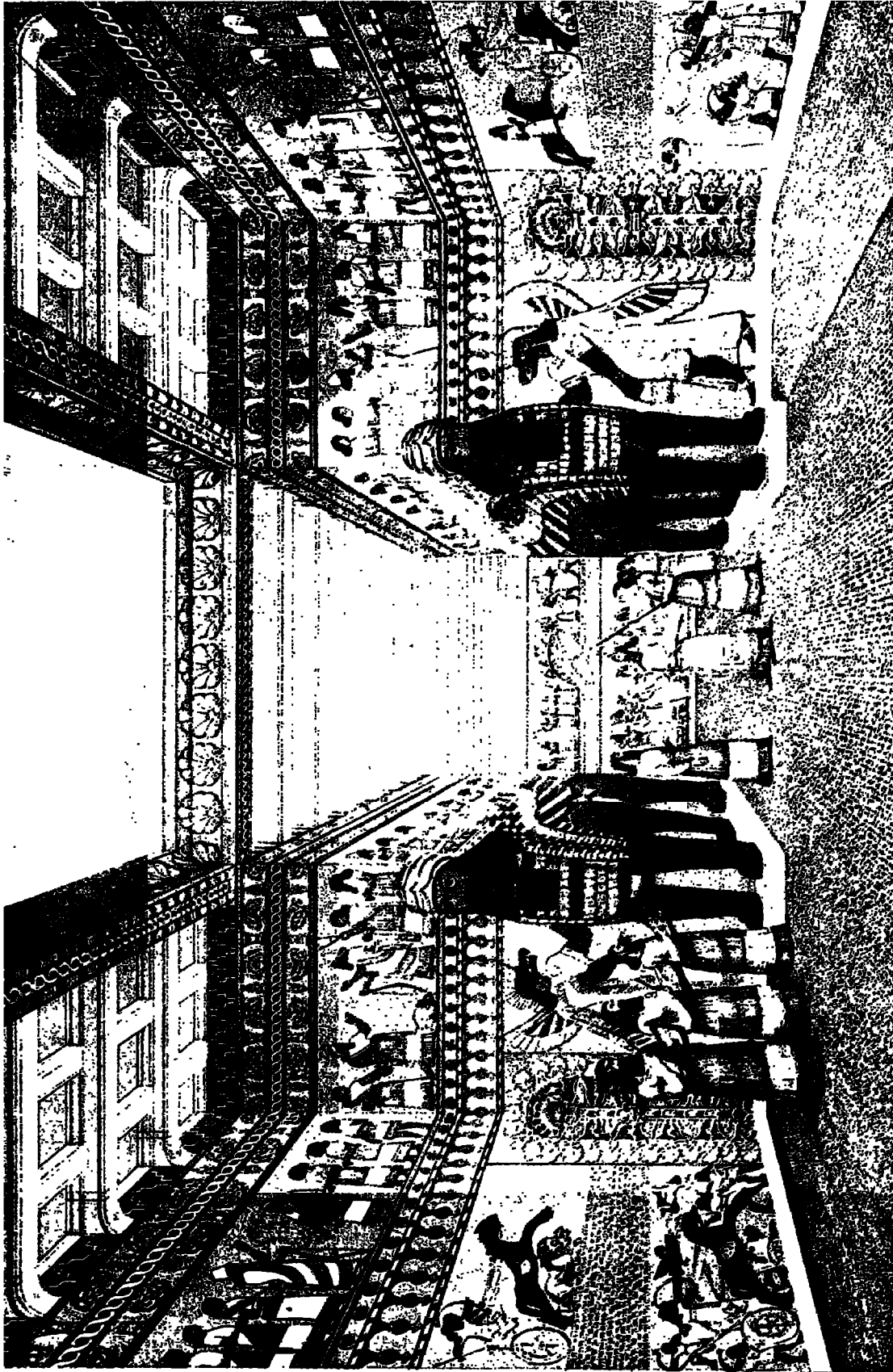
said to have been such that four chariots could be driven abreast on the ramparts. It is impossible now to estimate their precise measurements, but, judging from the poor vestiges of them which remain, they must have been of cyclopean dimensions. The inner core was constructed of sun-dried bricks, dug out of the ground immediately in front of the wall, so that a deep trench might be formed, and on this brick foundation was superimposed a heavy facing of stone slabs. At intervals the walls were pierced by great gateways which were flanked by the inevitable winged bulls or lions and closed by doors of cedar embossed with bronze.

The shape of the space enclosed by these vast battlements resembles nothing so much as that of a legging or gaster, the front of which faced the left bank of the river Tigris, that part which represents the calf and faces eastward being protected by three outer rows of ramparts. The whole was cut transversely by the river Khosar, an affluent of the Tigris which at its entrance to the city on the west, described a semicircle at the foot of an eminence now known as the mound of Kouyunjik, but which, in the period of Nineveh's highest development, appealed to her architects

as an unrivalled site upon which to erect a succession of royal palaces that, for sheer magnificence, were probably unequalled in the ancient East.

How many royal edifices had been successively built on this site since Nineveh came to be regarded as a capital city it would be impossible to say, as king after king, dissatisfied with the mansions of his predecessors, swept them away or altered them out of all knowledge to suit his taste or necessities. But several distinct buildings have been identified—the palace of Shalmaneser II, dating from 860 B.C., that of Sennacherib, situated at the extreme south-west of the mound, and post-dating that of Shalmaneser by more than two hundred and fifty years, and the royal residence of Ashurbanipal, which occupied the northern part of the eminence and was constructed about 668 B.C.

The palace of Sennacherib, which seems to have



POMP AND CIRCUMSTANCE IN THE PALACE OF AN ASSYRIAN KING

Beautiful reconstruction of the hall of an Assyrian palace restored from actual remains under the direction of Sir Austen Henry Layard. The paneling is of sculptured alabaster slabs, the ceiling is formed by beams of wood painted, gilded, and inlaid. The king is seen entering through a great portal flanked by winged and bull-headed lions, accompanied by his attendant eunuch and vizier and received by musicians playing a kind of harp. The costumes have been taken from drawings of those in actual sculpture.

From Sir Austen Henry Layard's "Monuments of Nineveh," published by Mr. John Murray

remained intact until disaster finally overtook the city, was, if credence be extended to the careful restoration of it in the plans of Fergusson and others, one of the excelling triumphs of Assyrian architecture, surpassing the squat and rather box-like type of structure so frequently raised by the builders of northern Mesopotamia, and rivalling in its airy grandeur and graceful dignity the royal residences of Babylon. Indeed, it seems probable that it was designed by Babylonian architects brought captive to Nineveh after Sennacherib's ruthless devastation of the more ancient kingdom.

Rising from a vast platform of brick faced with stone, and inlaid with tiles decorated with the fantastic profusion of ornament so typical of Chaldean art, its lower façade sculptured with the bizarre figures of mythology and the carven records of the triumphs of Assyrian arms, the rather overwhelming grandeur of these was relieved by rows of light and slender columns interrupted by lofty gateways, and broken by skilfully designed salients. The upper storeys, in their rich and airy freedom, recall the fairylike beauty of Renaissance architecture. Their towers were connected by colonnades, in the refreshing shadows of which the court enjoyed the cool evening airs from the east. The whole reminds us of the piled magnificence of the cloud-capped palaces of which we read in Arabian or Persian story. It is the soul of the East miraculously expressed in stone.

These enchanted walls once rang to the peal of victorious trumpets, as the stern battalions in their bronze armour, fresh from triumphs in Elam or Egypt, raised conquering shouts to Ashur, and the high colonnades, crowded with the painted and brocaded women of the palace, resounded to the clash of cymbals and the thrill of harps in praise of warrior-kings returning after battle.

Nor was the interior less magnificent. The brilliant paintings and sculptures which crowd the walls of Sennacherib's palace may be described as a vivid panorama

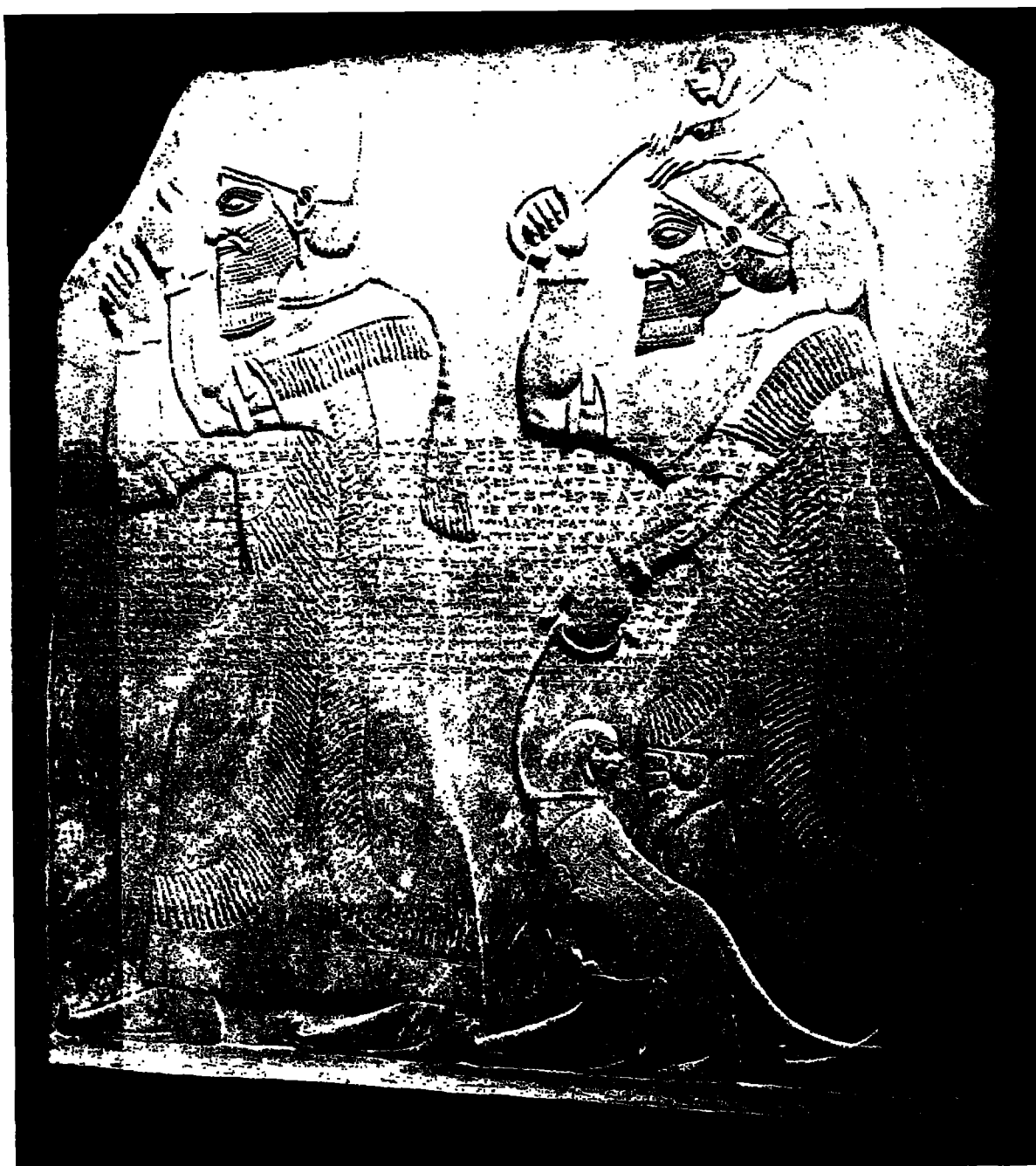
of Assyrian life and custom as they appeared in the middle of the seventh century before Christ. But they also constitute a pictorial record of the imperial expansion of the Assyrian power, and delineate with skill and painstaking fidelity the dress, occupations, and characteristic features of subject races. Bas-reliefs of free and masterly execution retain for us the atmosphere of the Babylonian swamp-country of twenty-five centuries ago, the primitive inhabitants of which are depicted paddling about in their crazy coracles



FROM ASHURNASIRPAL'S GREAT PALACE AT NIMRUD

Bas-relief of a priest, who is represented wearing the divine winged apparel peculiar to his office and carrying a goat on his left forearm, while he holds aloft in his right hand an ear of corn. This bas-relief once formed part of the decorations of the palace built by Ashurnasirpal II. at Nimrud.

Courtesy of the British Museum



TRIBUTE FOR A SOVEREIGN'S LEISURE HOURS OR FOR A ZOOLOGICAL GARDEN AT NINEVEH
 One is reminded by this relief, from the palace of Ashurnasirpal II. at Nimrud, of some of the Egyptian wall-paintings where envoys bring strange animals from distant lands to the feet of Pharaoh. Here foreigners are bringing apes as a present to the king. The feet and hands of the creature on the ground are ludicrously human, from which it may be judged that the Ninevite craftsman was unfamiliar with these beasts, but in all else he follows his usual practice of treating animals with greater freedom and fidelity than human beings (compare the lion on page 771).

Courtesy of the British Museum

of skin and wickerwork, or sheltering among the reeds in hiding from the pursuing Assyrians. Or the sculptor transports us to the highlands of Kurdistan, with their brawling mountain torrents and rude hill-forts, from which hungry tribesmen swarm down upon the rich lowlands.

Long caravans of hapless prisoners are seen trudging along the well-laid military roads to Nineveh, shouldering the loot which they were compelled to carry, and dragging their children after them. The national costumes of these are sketched or chiselled with the minutest care, and

these representations have enriched our knowledge of the customs of the ancient East as nothing else could possibly have done.

But the environment of his new palace evidently did not please Sennacherib, and he addressed himself to a scheme of town-planning which might worthily set off its splendours. New temples and edifices arose on all sides. Ruinous or decayed buildings were scrapped, and broad avenues

constructed where slum property once stood. Entire districts, some of them more than a mile square, were levelled, and new thoroughfares, flanked by gleaming white buildings, their façades richly sculptured and painted, rose as by sorcery through the incessant labours of many thousands of hapless captives.

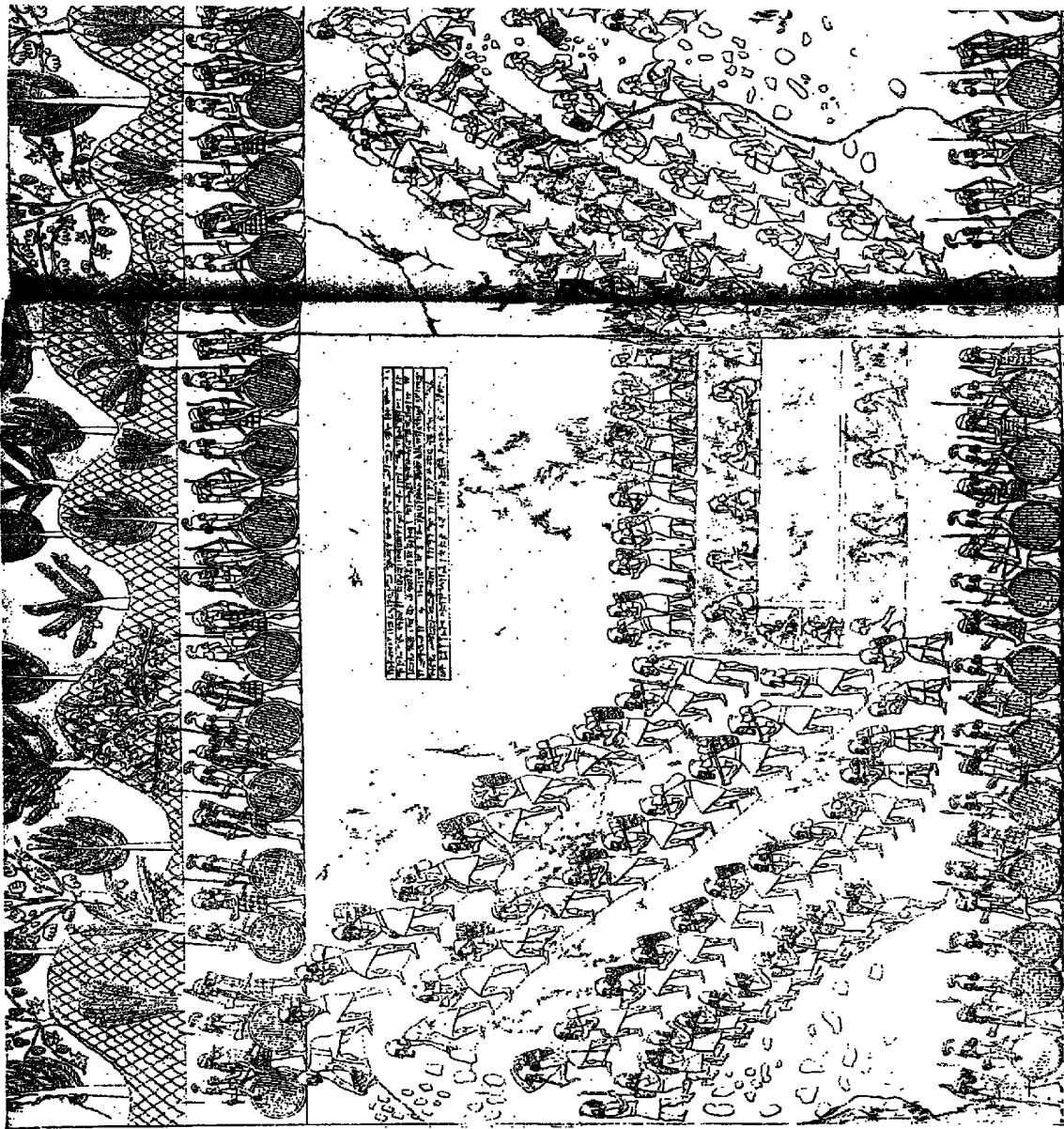
The new streets, some of which linked up the great gateways of the city, swarmed with cosmopolitan



ASSYRIAN ROYALTY ENGAGED IN THE PERFORMANCE OF RELIGIOUS RITUAL

Ritual scene from the walls of the north-west palace at Nimrud. Holding the emblematic bow and a sheaf of arrows (see illustration in page 781), Ashurnasirpal is shown followed by a winged figure or genius making offerings to a god. The objects in the hands of his attendant are a fir-cone and a bucket to contain oil or honey. The figures are highly formalised, but instinct with a certain dignity, and make their ceremonial gestures with spaciousness and freedom.

Courtesy of the British Museum



BUILDING A MOUND OR PLATFORM FOR THE ERECTION OF SENNACHERIB'S—
 Short epigraphs over the figures of these bas-reliefs from Konyunjik convey the information that they represent the building of his great palace there by Sennacherib. In the centre square are the brick-makers, while the fetters on many of the workmen show that these were criminals or, more probably, slaves captured in foreign campaigns. The palace, 1,500 ft. long and 700 ft. broad, was reared on a grander scale than had ever been attempted before, and was extensively ornamented with sculptures. Sennacherib (703-681 B.C.), son and successor of Sargon II., the built this great wall of his palace, and his army captured, enslaved 400,000 of the inhabitants from Ishtar's "Fortress of Sharruk" (Ishtar), captured by him. (See page 776.)



—PALACE AT NINEVEH
 of Judea, captured Babylon, and raised that city to the ground. He was murdered by his sons. The ruins of Sennacherib's palace were discovered by Sir Austen Henry Layard in 1849-50.

crowds representative of the subject races of the Assyrian empire. Merchants from Phoenicia and Elam sat at their canopied stalls, selling the dyed wools of Palestine, or strange pottery from the Mediterranean. Syrians sold fans of ostrich plumes, and Persians and Egyptians the cosmetics and perfumes for which there was a never-failing demand in Nineveh. The envoys of tributary principalities brought gold-dust and ivory to the temples, whose priests acted as the national bankers and moneylenders. Soldiers were seen on every hand—hard-bitten captains with fantastically curled false beards, and horsehair plumes waving above their brass helmets, cavalymen on prancing horses, silent spearmen, Roman in their discipline and bearing.

Gaily-dressed ladies in richly dyed and trimmed robes of cotton and wool, their coiffures showing the district to which they belonged, passed through the rows of booths, whence a constant hum of loud chaffering arose, and where busy clerks impressed their masters' accounts on tablets of damp clay. In the shadows of lanes and by-streets, witches sold spells and love-philtres. The temples, with their tall, square towers rising in successive stages, were alive with worshippers and pilgrims, countrymen and foreigners, who nudged each other and stared at the bas-reliefs or the rich mural paintings which told of the deeds of the gods, or lingered in adoration before the idols of Ishtar and Nebo, half-hidden in clouds of ascending incense.

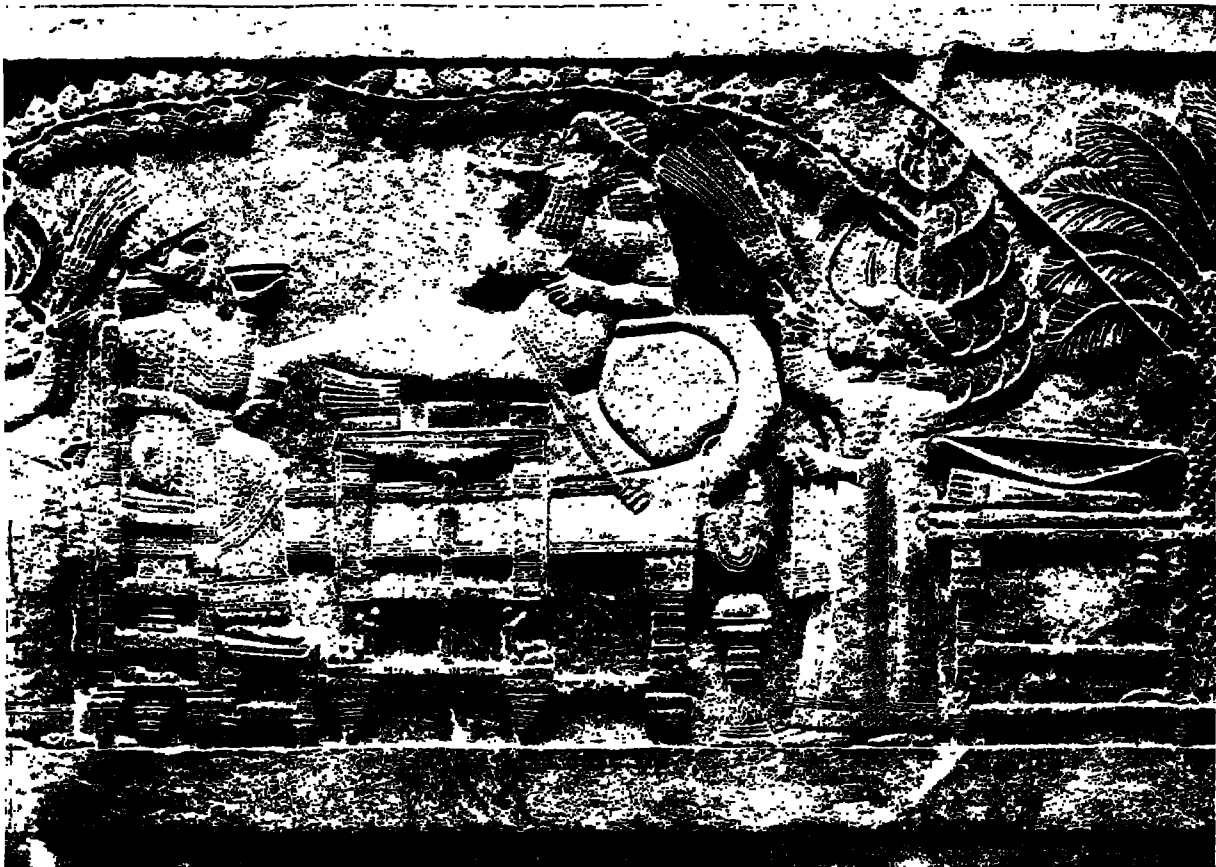
At the entrance to new temples architects placed in position the colossal representing winged bulls and lions, which had been roughly hewn out of stone in the town of Baladai, and then cased in bronze. These were dragged into place by perspiring gangs of slaves, who had drawn them for many miles on rude carts fitted with sledge-runners, and who looked forward hungrily to the scanty allowance of oil, honey, and sour wine which, with a little black bread, kept them in life.

We must be cautious in our acceptance of the classical story that Nineveh occupied an area of some sixty square miles, and the equally improbable estimate that it took a three days' journey to cover the ground on which it was built. It may be that the space between the walled portion and the adjacent city of Calah was joined up by suburbs, villas, and gardens which gave the general impression of continuity.

The gorgeous palace of Ashurbanipal, unearthed in the mound of Konyunjik in 1853 by Hormuzd Rassam, if it did not surpass that of Sennacherib in sheer beauty of design, assuredly far outstrips it in the universal interest which its contents have for the modern world. It was of vast extent, and it is difficult to reconstruct the labyrinth of its many chambers, the walls of several of them are familiar to us, for the magnificent friezes they once contained are among the choicest treasures of the British Museum. But this palace has other claims upon the memory than those of art, for it contained a portion of the famous library of Ashurbanipal, the repository of those clay tablets inscribed with cuneiform script which deal with every phase of Assyrian life and history, law, medicine, magic, legend, which have given to us the mighty epic of Gilgamesh, and a Creation story strongly reminiscent of that in Genesis.

To-day, Nineveh is precisely as Layard, Rawlinson, and Smith left it—a series of hummocks, carved and tunnelled by the excavator. No "runs" are apparent, for the unbaked Assyrian brick, which was dug from the soil to a great extent, once more became part of it, and it is only with the utmost care that one may be separated from the other. Moreover, the bas-reliefs and sculptures have been removed to the museums in the capitals of Europe.

Legend paints a glittering picture of the fall of Nineveh. It tells how its last king, the roi fainéant, Sardanapalus (Ashurbanipal), convinced that the city could no longer hold out against the encircling hosts of the Medes, rather than surrender preferred to perish picturesquely in the flames



ASHURBANIPAL AND QUEEN CELEBRATING A VICTORY

Part of a relief depicting Ashurbanipal, after his return to Nineveh from a successful campaign, lying upon a luxurious couch in his garden and sharing a sumptuous meal with his queen. Notable are the fringed coverlet over the king's knees, the garland over the arm of the couch, the uprights and cross-pieces of the queen's throne, the details of the king's couch, the pattern of the royal robes, the small table, and the treatment of the vine that bends over the heads of the royal couple.

Courtesy of the British Museum

of his palace, surrounded by his seraglio and the heaped-up treasures he had gathered from the four quarters of the known world. But the end came not with Ashurbanipal, but with his brother, Sin-shar-ishknan, who, it would seem, died much in the manner attributed to his better-known and more historically important kinsman.

Nahum and Zephaniah, the Hebrew prophets, exulted in the fall of the scourge of Asia, and not without justice. For, despite the sense of glamour which the name of Nineveh awakens, she was the nest and metropolis of a merciless and insatiable race of military tyrants who had flourished too long at the expense of a growing civilization which they exploited but were incapable of appreciating.

For two thousand five hundred years the memory of Assyria was softened into dim beauty by the mists of the centuries; then the day came when men once more entered the long-buried palaces, read the boastful and heartless messages inscribed upon their walls, and knew her for what she had been in truth—a volcano among the nations—lurid, magnificent in the strange and

flowerlike colours of the fires she gave forth; but devastating, obliterating, a scourge to the peaceful plains surrounding her, whose people trembled at her rumblings and loathed her for the lava of war she never ceased to vomit, until at length she was delivered into the hands of the spoiler.

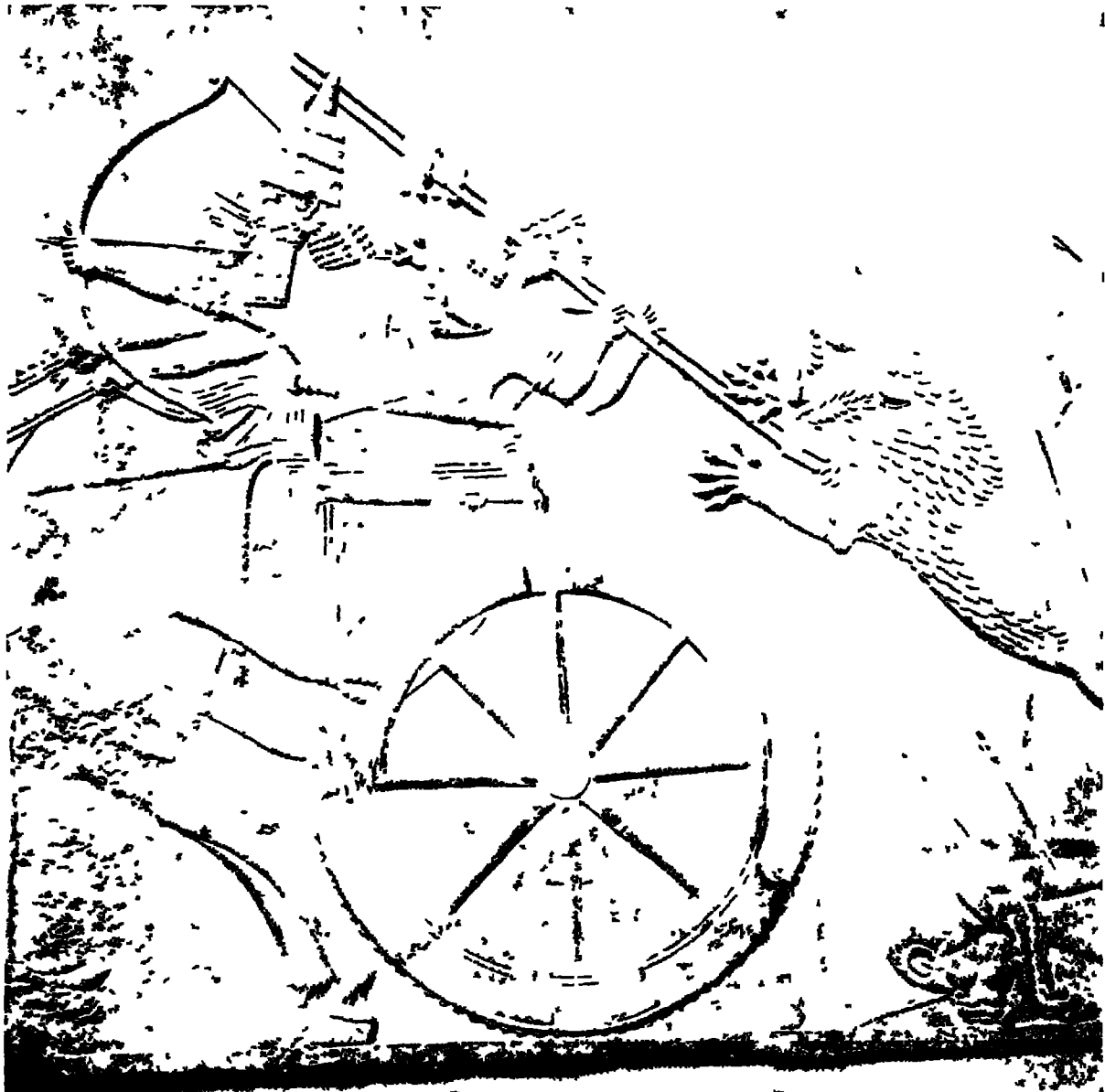
Layard had a precursor in his work of excavation. Paul Botta, the French consul at Mosul had undertaken operations at Kouyunjik, but had received information that an important site existed in the Mound of Khorsabad, about twenty-five miles to the north-east of Mosul. Proceeding there, he succeeded in penetrating to a chamber which was connected with others and built of slabs of gypsum covered with sculptured representations of Assyrian campaigns. These were in a much better state of preservation than the remains at Kouyunjik, and astounded the discoverer, who was quite at a loss to comprehend the significance of the mythic figures on the walls or the cuneiform characters which accompanied them. Many of the excavated sculptures had suffered considerably at the time when the building was destroyed by

fire, and as soon as the halls were cleared of rubbish they began to crumble

E N Flandin, Botta's coadjutor in the work of excavation made a careful ground plan of the Palace of Sargon, as the building now unearthed proved to be. Botta's successor, Place, taking his cue from this, ultimately excavated a space three times as large as that previously laid bare, and penetrated even to the walls which had surrounded the palace. He discovered seven of the gates some

flanked by the usual winged bulls, and having three arches beautifully decorated with friezes of blue-and-white enamelled tiles representing winged gods, animals, plants, and rosettes

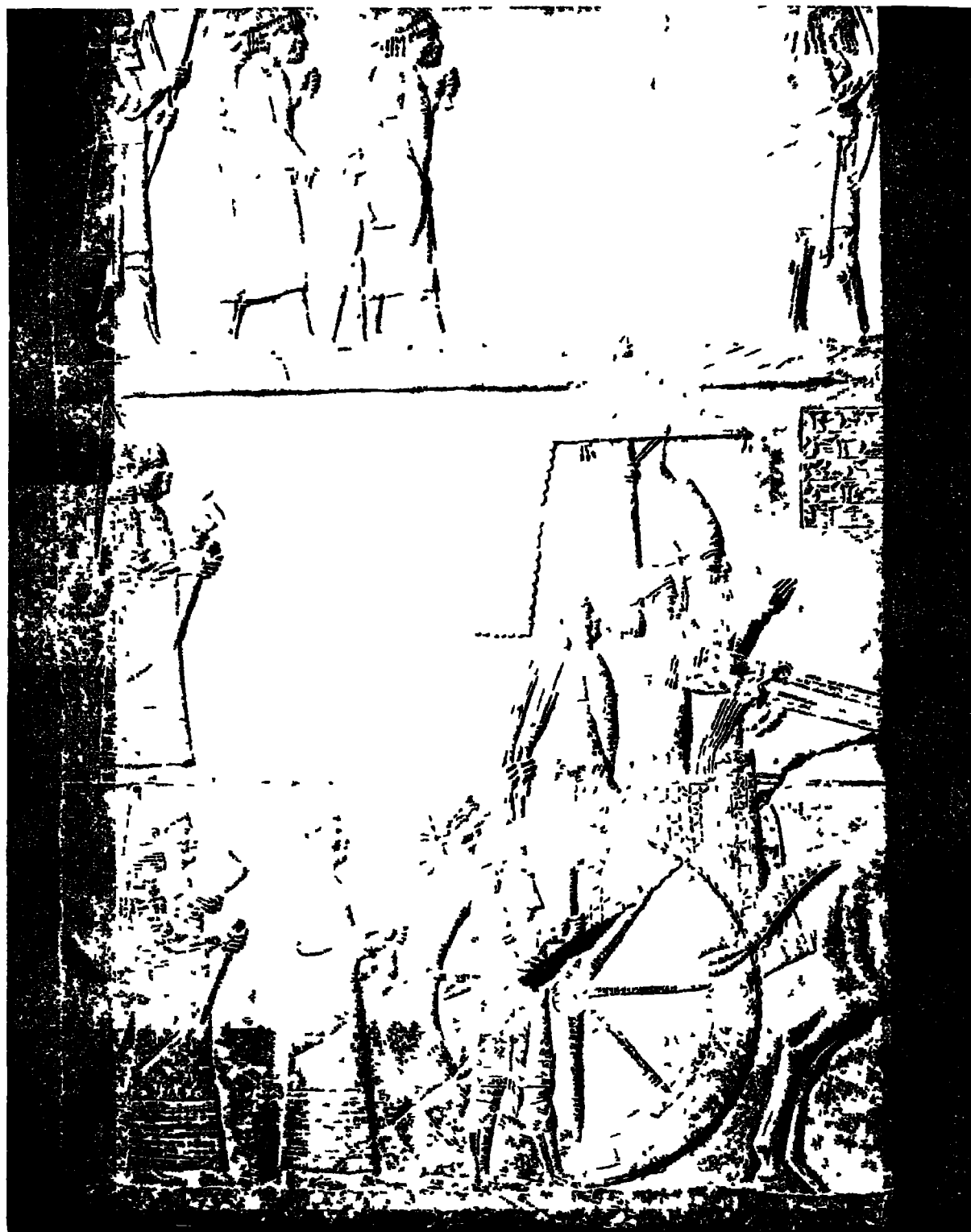
The reconstruction of the palace of Sargon by Victor Place, an architect by profession and a surveyor of ability and insight, probably affords us an accurate picture of the once immense and stately structure. The palace appears to have been very nearly square in shape, and to have enclosed



ASHURBANIPAL IN HIS HUNTING CHARIOT ATTACKED BY A WOUNDED LION

The kings of Assyria were fierce hunters as well as great soldiers, and we cannot but remember Nimrod that mighty hunter before the Lord. And the beginning of his kingdom was Babel. Out of that land he went forth into Assyria and builded Nineveh (Genesis 10). In this bas relief from the Palace of Ashurbanipal the king is hunting lions from his chariot and proves his marksmanship with the bow, while attendant spearmen ward off the infuriated charge of a wounded beast

Courtesy of the British Museum



POMP THAT ATTENDED THE PROGRESS OF ASHURBANIPAL

Many details of Assyrian art and manners are exemplified by this relief of Ashurbanipal in his chariot from Kouyunjik. Not only are the Assyrian trappings and elaborate curled horse tails all executed with careful precision, but we can see the five whisks, the king's long and pointed robes and the detailed construction of the chariot with great exactitude. Note also that there are only two variations of features in Assyrian art—the bearded and the beardless face, the king only being distinguished by dress and stature.

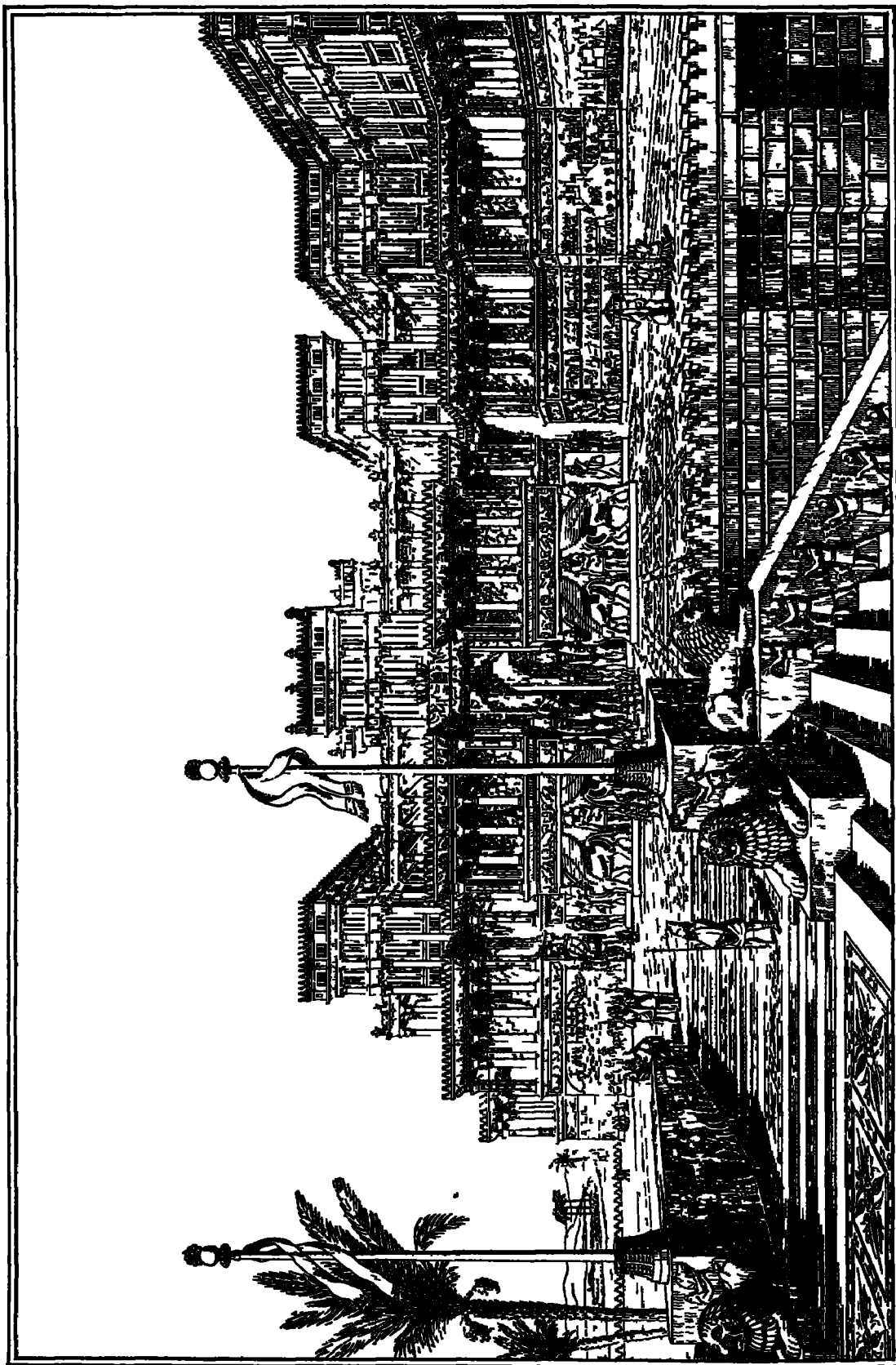
Louvre Paris



PALACE BAS-RELIEF SHOWING ASHURNASIRPAL ABOUT TO POUR OUT A LIBATION

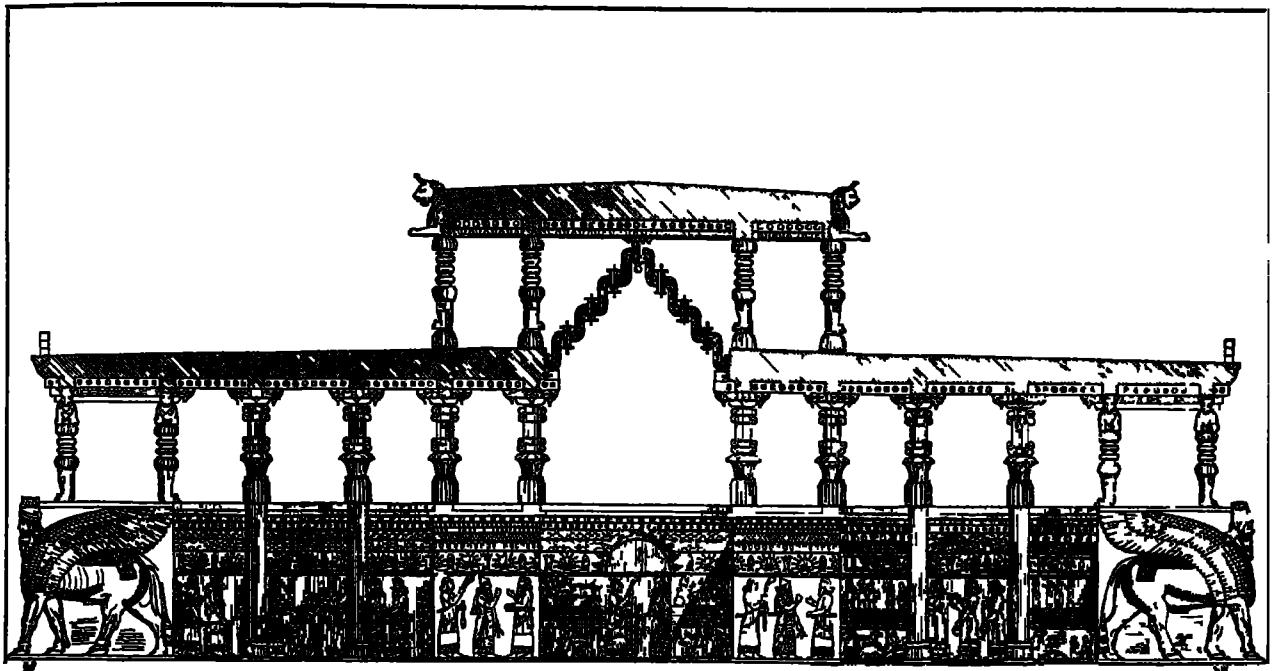
Religious rites formed no small part of an Assyrian king's daily duty, and this bas-relief from his palace shows us Ashurnasirpal II. engaged on some solemn ceremony in which he is about to pour a libation from a chalice. In his other hand he holds a mighty bow—perhaps the great symbolic bow of Ashur—and over his head a formidable eunuch holds the royal fly-whisk, emblem of kingship. The bracelets on the wrists of the figure bear a curious resemblance to modern wrist-watches!

Courtesy of the British Museum



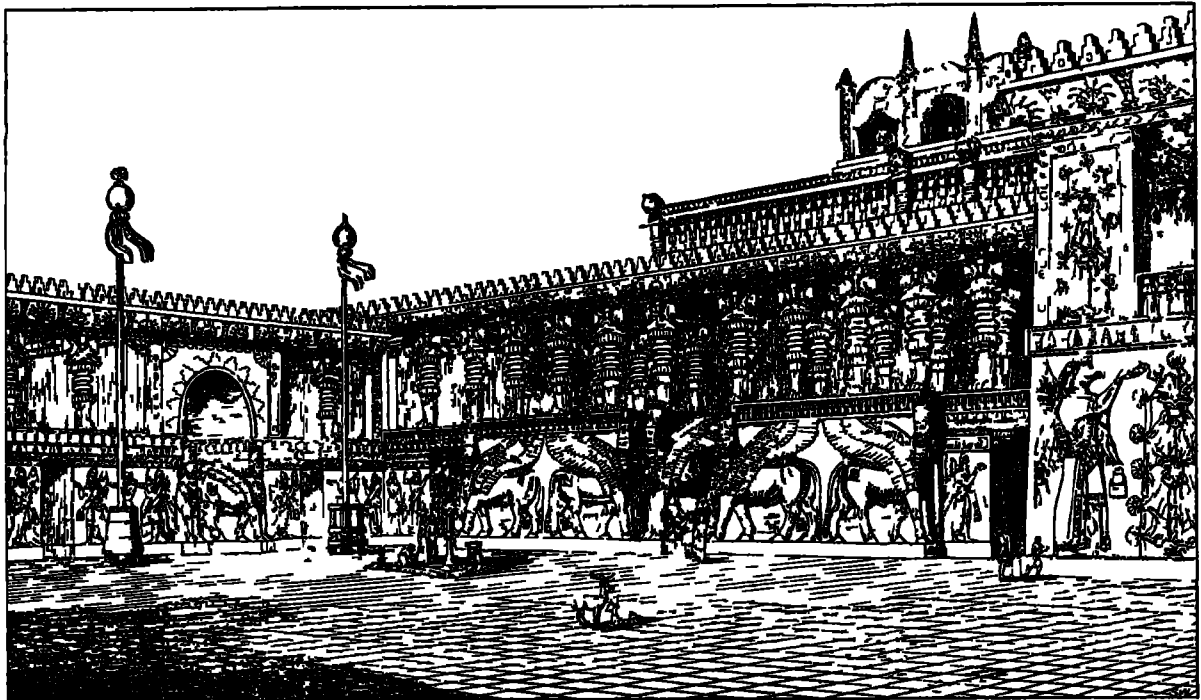
NORTH-EASTERN FACADE AND GRAND ENTRANCE OF SENNACHERIB'S PALACE AT KOUYUNJIK

Careful investigation on the actual site have resulted in this restoration of Sennacherib's palace, from a sketch by J. Fergusson. The building is very different from the heavier structure erected by his father, Sargon II., at Khorsabad (see illustration on page 784) and a greater knowledge of the artistic processes which led to this revolution would go far to make the past live for us. Was the architect responsible? Or did Sennacherib himself plan these airy columns and soaring terraces which are almost Greek in their combined lightness and strength? The decoration is profuse and bas-reliefs fill all the available space on the lower courses, but it is only when seen in their proper surroundings that the majesty of the grotesque winged monsters can be realized.



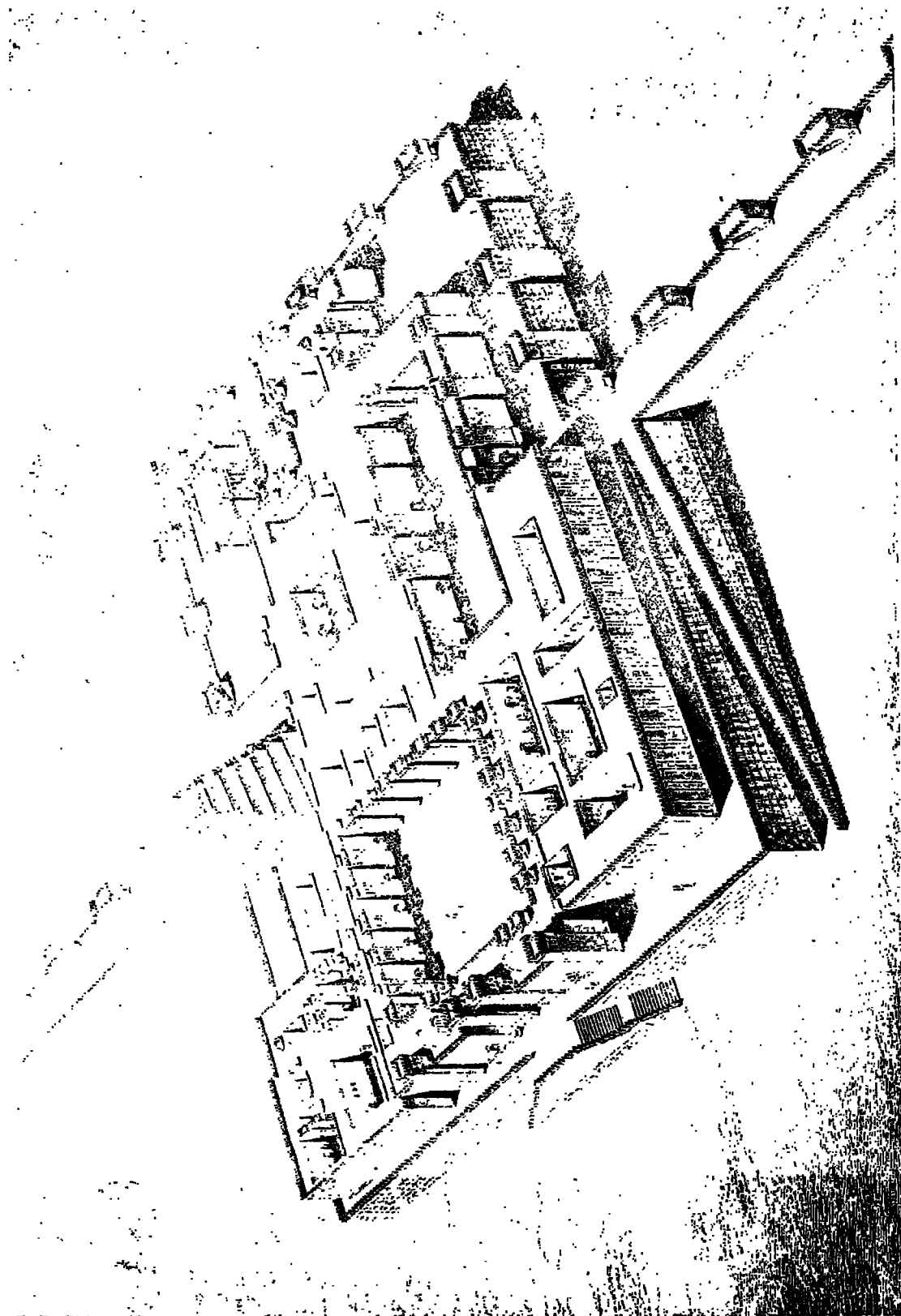
SKILFUL PROPOSAL TO SOLVE A DIFFICULT PROBLEM OF ASSYRIAN ARCHITECTURE

One of the questions that have puzzled the archaeologist is the method of roofing and lighting adopted in the Assyrian palaces. The rest hall could not have been vaulted without the use of kiln baked bricks, at least some of which would have survived among the debris to tell the tale which is not the case. Above is a sectional restoration through three halls of the palace of Sargon II showing the solution of this problem as deduced by J. Ferguson from all the available evidence and below, his view of the northern angle of the court according to this scheme. The light portions show the four doorways and the shaded portions end walls.

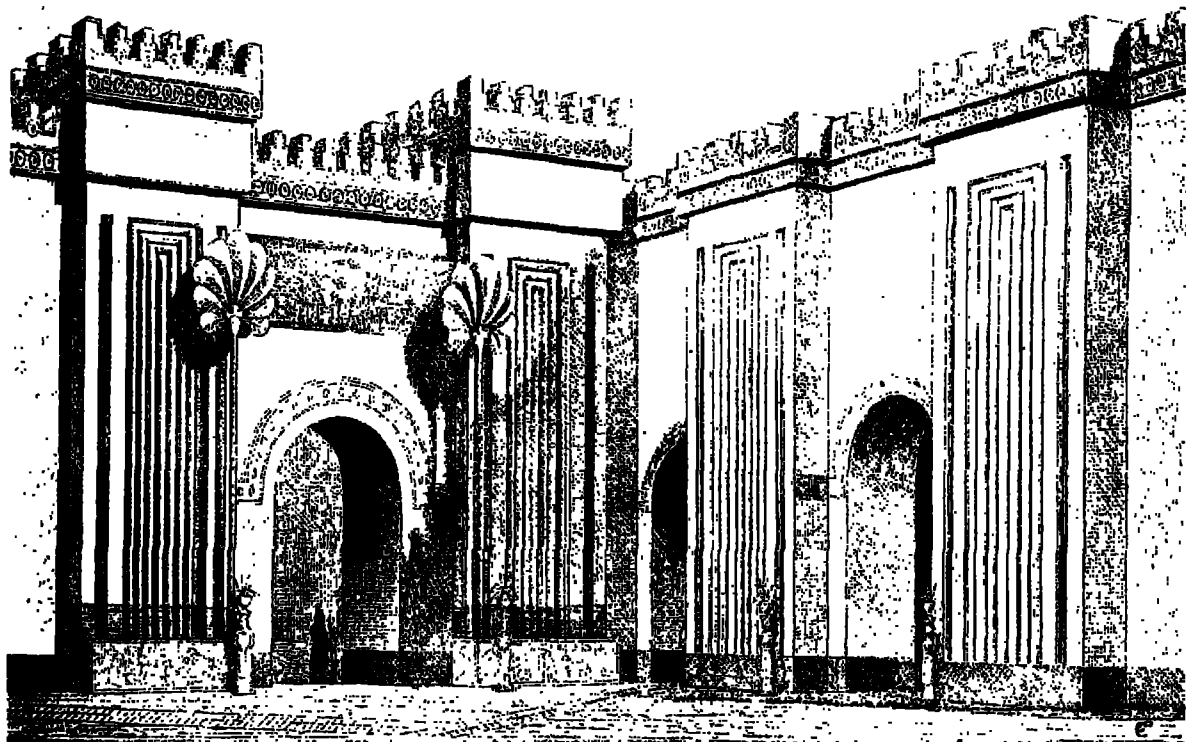
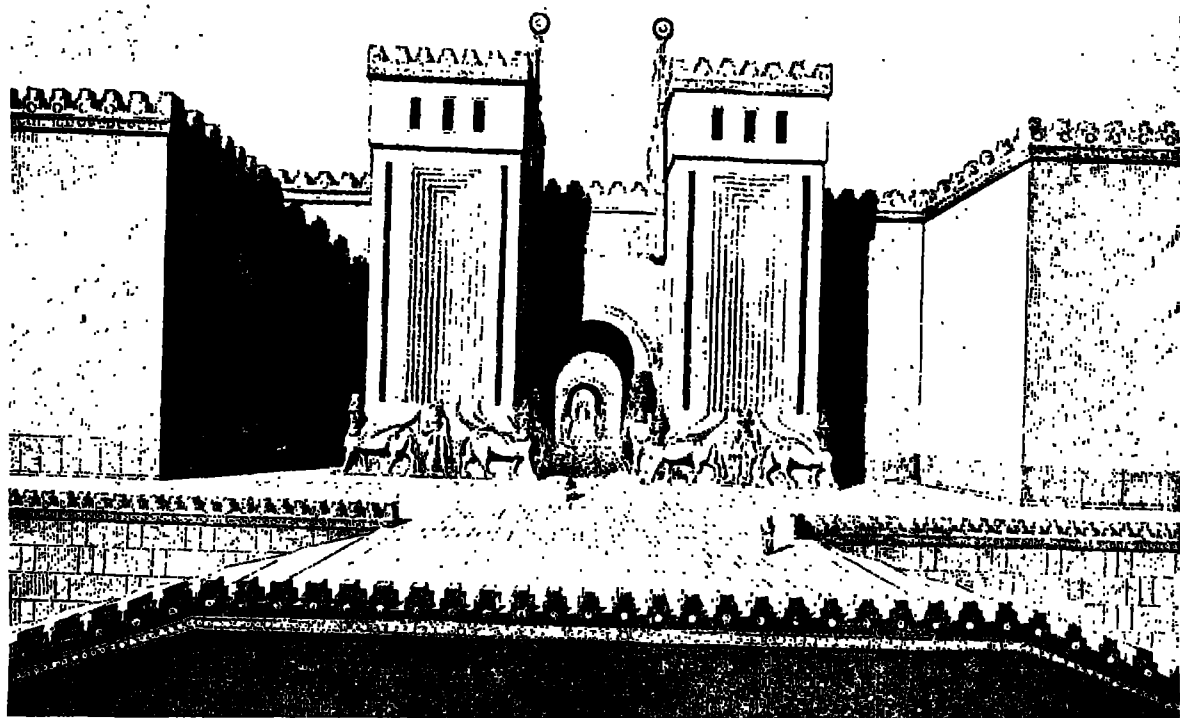


AIRY BUT SHELTERED FROM SUN AND RAIN: ADMIRABLY SUITED FOR THE CLIMATE

It will be seen from the two restorations of the palace of Sargon at Khorsabad in this page that according to the opinion of the best authorities, columns supported the roof of sun dried bricks, while the walls were only solid to half their height, the remainder being occupied by a double row of pillars thus admitting light and air, the central hall was lighted by further rows of pillars superimposed on those below, the inner walls being so thick that the space between the rows served as an upper storey. During hot sunshine or inclement weather the gaps between wall and roof could easily have been screened with curtains or mats.

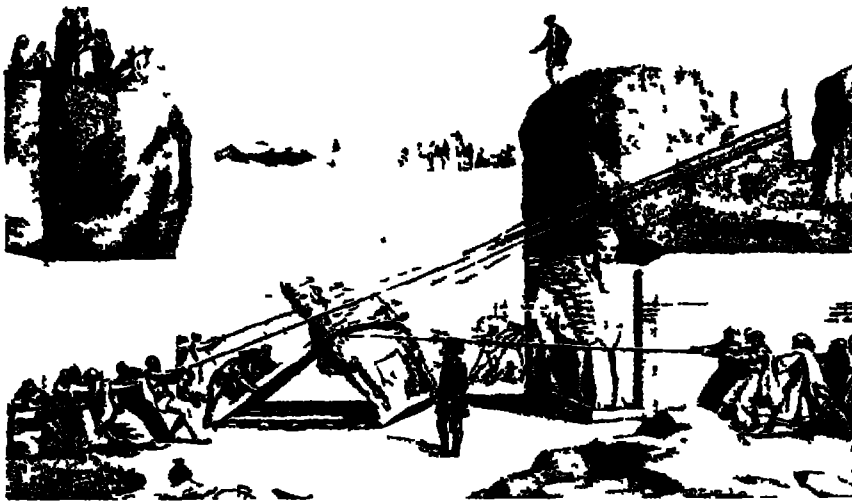


BIRD'S-EYE VIEW OF THE GORGEIOUS PALACE-FORTRESS BUILT BY SARGON II.
 Sargon or Sharrukin II. ("The True King") usurped the throne from Shalmaneser V., and in spite of the endless foreign campaigns with which his reign (722-705 B.C.) was crowded he found time to build himself a magnificent palace at Khorsabad, or Dur-Sharrukin as it was originally called after its founder, of which the above is a bird's-eye view from a restoration by Félix Thomas. The architecture was of a more solid order than in the palace of his son Sennacherib at Kouyunjik (illustrated in page 782) nevertheless, with its pilasters, battlements, and buttress-towers, it was by no means gross or ill-proportioned.



SPLENDOURS OF ASSYRIAN ARCHITECTURE IN THE DAYS OF SARGON II.

An excellent idea may be had of Assyrian splendour from these two restorations by Félix Thomas of the Palace of Sargon at Khorsabad. Top, the south-eastern façade and main entrance, where the disposition of the human-headed bulls is well shown; below, the court of the harem. Polygamy was not universal in Assyria, but in the houses of the wealthy the establishment of concubines might be very large. They were practically prisoners, unlike the women of the lower classes, who enjoyed a freedom comparable with that of their contemporaries in Egypt.



LOWERING THE GREAT WINGED BULL AT NIMRUD

Hewn to guard the portals of the palace of Ashurnasirpal, the human-headed monster was scarcely destined by its architect for being a statue, that weary one it was to take to a northern capital when, twenty-five centuries later, Sir Henry Layard came with his workmen and dragged it from its old foundation to rest at last in the British Museum.

A space of a little over 741 acres. On its north-west side stood the residential quarters of the king, a crowning bastion with eight monumental gates, each of which was named after an Assyrian god. The whole was raised upon a lofty terrace nearly forty-five feet high and built of unbaked bricks, cased with a wall of large square stones. At the northern corner was an open space covering nearly twenty-five acres. At the western stood a ziggurat, or temple built in ascending stages, and employed for astronomical observations. The palace proper—the residential quarter—was divided into three sections. The scraglio occupying the centre, the harem situated at the southern corner of the block, and the domestic quarter—store-rooms, provision chambers, kitchens, stables, and bakery—the south-east side.

The scraglio which included the king's personal quarters consisted of many chambers, large and small, grouped round several open courts. The wing to the north-west contained reception rooms and halls decorated with

magnificent sculptures and historical inscriptions in adulation of Sargon and his victories. But the private apartments of the monarch were smaller and simpler and occupied the south-west wing close to the harem, the traces of the hinges of whose doors still remain in mute evidence of the fact that they were rigidly separated from the main building.

One would think that the inmates, immured within the palace walls, must have passed their time in such intrigue as would have proved a source of harassment to the most voracious of monarchs. But it is in

personal touches such as these that our whole knowledge of the Assyrian people is lacking, and we are left to build our vision of a mighty race which left an abiding mark upon its neighbours, with little to aid us but a legalised social code and grim records of conquest carved by vainglorious kings beneath the mounds which mark the site of Nineveh and Khorsabad.



IMPOTENT HOOF AND WINGS THAT AVOIDED NOT

Never can the bull's vigorous pose, its wings outstretched as though for instant flight, have appeared with greater effect than by contrast with its slow, prone, and painful progress as the cortege made its way across the plains from Nimrud. Some of these bulls had to be sawn up for transport, and many of them must have weighed fifty tons.

Herculaneum after Eighteen Centuries

By Amedeo Maiuri

Superintendent of Antiquities in Campania

OVERWHELMED by the same eruption of Vesuvius that engulfed Pompeii a dozen miles away on the same smiling shore Herculaneum has for long engaged the attention of archaeologists. Digging commenced in 1710 and since then intermittent excavation has revealed many cities of art. Of recent years the work has been conducted on a far larger scale than heretofore and with all the science and skill of the modern archaeologist. We are privileged to give below an account of the operations from the pen of Professor Amedeo Maiuri, Director of the Herculaneum excavations, to whom we are also indebted for most of the accompanying photographs.—EDITOR

PRIOR to May 1927 Herculaneum presented a sad spectacle with little showing but the dark covered in galleries of its theatre excavated in the 18th century and a few fragmentary buildings stripped of every ornament. Up to then it was an immense and impenetrable mystery presenting seemingly insurmountable obstacles to our eager researches into its past. To day after years of hard and continuous labour of close technical and scientific collaboration between the organizing bodies and those actually carrying out the work Herculaneum offers one of the most singular most organic and complete views so far afforded us of the life of the ancients.

The plea urged years ago by Sir Charles Walston that the city which had already yielded a priceless and copious collection of sculptures in bronze and marble a complete library of papyrus beautiful inlaid flooring in multi coloured marble, and some of the most valuable relics of ancient painting should be uncovered and not merely dug into and tunnelled through has now been satisfied. The second of the two cities buried by

Vesuvius has at last been revealed with its streets its buildings and its suburbs—restored like Pompeii to the light of day by the spade of the archaeologist. What has been and must still be regarded as the most arduous and most laborious work of excavation ever undertaken is now proceeding in Italy as a result be it noted of the firm and well considered determination of the head

of the government Signor Mussolini.

To understand the gigantic nature of the task to which Italy has set her hand the anxiety with which the results are awaited—to realize the determined effort needed in order to carry it on and to measure at their true value the results obtained in a comparatively short time it is necessary to look back upon the dramatic and heroic history of the excavations at Herculaneum which after being started by means of underground tunnels in 1738 during the reign of King Charles of Bourbon were suspended and restarted several times prior to 1825 and then finally abandoned in 1875. At the beginning of 1927 all that could be seen of the enormous work accomplished by whole generations of excavators and tunnellers,



TENEMENTS OF THE HERCULANEAN PLEBS

Wedge in between the palatial houses of the Herculaneum were the crowded habitations of the poor. Some of these have been discovered and one is shown here. Only 3 ft high it is built mainly of wood and plaster and was divided into two independent dwellings. Like the noble villa, it had its balcony above the entrance.



WHERE THE BUSY TIDE OF HERCULANEAN LIFE ONCE FLOWED

Some idea of the task confronting the excavators of Herculaneum may be obtained from this view of one of the streets dug out of the tuff that only quite recently covered it to the depth indicated by the glimpse of Resina in the background. The streets were narrow but well-paved, and footpaths, covered for considerable stretches by house balconies, were provided

architects and engineers, was the theatre of the town—only visible by the light of lamps and accessible through the subterranean galleries left there after more than 30 years' work by the diggers and engineers of the Bourbon period—and a small group of buildings unearthed lower down below the level of the houses of Resina, between 1828 and 1875, none of which offered the aspect of a complete house. The fame of Herculaneum rested not so much on these few and fragmentary remains of the buried city, but rather on the treasures of art in bronze and marble, and on the papyri, which the tunnellers had succeeded in bringing up to the light of day from the dark recesses of the subsoil.

Despite the marvellous discoveries made in the past, and the serious damage done by those who drove the tunnels (since in the process of stripping the houses and the public buildings they neither paid nor could pay any regard to preservation and care of the structures themselves, their architectural features, mural decorations, mosaic work, etc., tunnelling through and thus destroying everything they encountered that impeded their search), Herculaneum still remained a great mystery and a great promise. Nothing was known of the architectural and constructional physiognomy of the city and of its urban development; nothing or next to nothing of its public buildings or of the public

and private life of its inhabitants; in fine, nothing was known of all those things which make Pompeii (apart from the particular interest inherent in its works of art) a unique picture of human and social life, and that may yet make of Herculaneum another miraculous resurrection of an ancient city. At the same time, a city which had yielded more than a hundred works of art from the partial excavation of its "Theatre" and "Basilica" and the uncompleted excavation of one suburban villa, could hardly be regarded as being exhausted and archaeologically barren.

Yet the certainty of ultimate success should not cause one to underestimate the formidable difficulties of the task, not only by comparison with

Pompeii but indeed with any city or large metropolis of ancient times which is to be unearthed. It is sufficient to remember that while the overlying earth at Pompeii is about 19 ft to 26 ft thick, the earth covering the buried city of Herculaneum varies from a minimum depth of 39 ft to 82 ft and over. The floor of the orchestra in the ancient theatre, for example, lies no less than 92 ft below the street level of Resina.

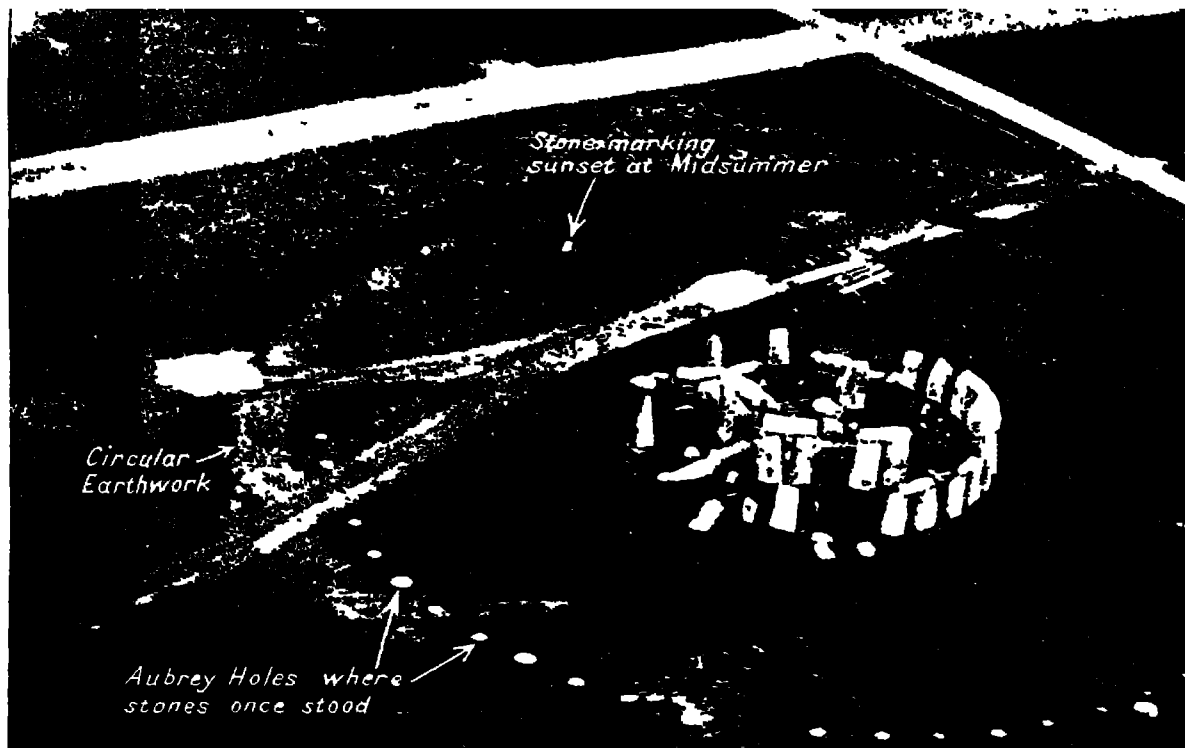
Nor is the difference confined by any means to level and volume. Over and above this, there is a great difference in the nature and consistency of the earth. At Pompeii, the enormous quantity of ashes and lapilli that descended through the air like sand and hail, has remained light, loose and friable—so much so, that once the level of the tops of the buildings has been reached, it is quite an easy task to load and remove the material. At Herculaneum, on the other hand, the matter thrown out by the eruption round the open mouth of the crater and the slopes of the mountain was carried downhill by the torrential rains and storms that always follow upon great volcanic disturbances; rushing impetuously towards the seashore it swept over the town and the villas of the suburb like a muddy deluge and, after submerging everything, finally settled and hardened into a compact mass of tuff, like an immense solidified river of mud. The pick, that faithful



Donald McLean

STONEHENGE'S MYSTERIOUS MEGALITHS AS THEY ARE TO-DAY

The Office of Works now guards Stonehenge as a National Monument. (Top left) A complete trilithon (triple stone) with the lintel fastened to the uprights by joints of the woodworker's "mortise and tenon" nature showing that it was probably erected by men used to wood rather than stone. Part of the outer circle of the main building is still intact (top right), and between the central uprights is the Hele Stone, over which the sun rises at mid-summer. Below is the view looking north, with the single remaining corner of the Great Trilithon.



STONEHENGE FROM THE AIR: A MONUMENT OF LONG FORGOTTEN MYSTERIES

It was a happy idea to take photographs of old Stonehenge from an aeroplane, most modern of inventions, in no other way could the disposition of its parts be shown so clearly. On the outside may be seen the circular earthwork that girdles the whole immediately within it are the "Aubrey Holes," sockets which may once have held the "foreign stones" that are now between the outer stone ring and the "horseshoe" trilithons. The stone in the background marks the midsummer sunset as the "Hele Stone" (see page 820) marks the midsummer sunrise.

Photo by Edwards

that they appear to be connected with a bygone necropolis, wherein were laid either the bones or the cremated remains of the chieftains and rulers of that distant neolithic age.

Who, then, were these vanished builders? Whence did they come, and what was their object in thus devoting such unthinkable labour and skill to the erection of these lasting monuments? For the purpose of our inquiry we must look first of all to the Mediterranean coast, whence came one branch of the Neolithic race specially notable for its magnificent chambered tombs. Secondly, we must note the Alpine race of Central Europe, first disseminators of a knowledge of agriculture, and with it, as is only natural, the religion of sun worship. If we can conceive a union of these two races in the limited area of Brittany, we at once have the essential conditions for the erection of the Alignments or Avenues of Carnac, as well as the chambered burial places, or dolmens, which cluster so thickly about them. Still following the evidence afforded by the map, it is possible to see that these races further settled themselves in Cornwall and Devon, leaving behind them similar monuments, finally settling in Wiltshire, where they erected the great stone circle of Avebury; and, lastly, Stonehenge, which is in all probability the latest

and most elaborate circle of its kind in Britain, and which, like those at Carnac, is surrounded by some hundreds of burial places.

Looking southward over the sheltered waters of the Bay of Quiberon, and bounded on the east by the estuary of the River Crache, lies the present-day village of Carnac; around it on all sides, and stretching for some miles in all directions, are the remains of the Megalithic builders of some four thousand years ago. Taking the road towards the village of Menec, the traveller will see on his right hand the Tumulus of S. Michel. The tumulus is without doubt one of the most impressive tombs in the world, a veritable mountain of rock raised by man, and built into galleries and chambers for the dead. For centuries it stood untouched till the year 1862, when M. René Galle made his first examination of it, with the result that he brought to light thirty-nine beautiful ceremonial axes of polished stone, and a superb necklace of "callais," a precious stone of unknown source, closely resembling turquoise. Seven of the ceremonial axes had been broken purposely, "to let the spirit out of them," so that the ghostly axe might accompany its owner into the new land whither his spirit had journeyed. Standing on the summit of this huge cairn, it is possible to



SITTING WHERE LEGEND PLACES THE GRIM SACRIFICIAL RITE OF LONG AGO

The detached trilithons in the background are two members of the "horseshoe" formation—the only part where the trilithon proper appears, for it must be remembered that in the outer circle the imposts bridged the uprights so as to form an unbroken ring. On the left is the standing upright of the "Great Trilithon," the centre of the horseshoe, while the titanic block upon which the soldier is sitting is the other upright which fell 300 years ago, and with the impost now lies across the Altar Stone.



by the shores of Quiberon Bay in Brittany stands the village of Carnac, a village which has given its name to a series comprising some of the most wonderful Neolithic monuments in the world. Stonehenge, no doubt, is a more perfect work—a later work; the technique of cutting and raising blocks had improved; but the vast Avenues of Carnac, some beyond stone almost as far as the eye can reach, are the product, one feels, of a more spacious ambition. This illustration is of the Alignment

connected with solar worship, on the solstices and at the equinoxes; it is, moreover, significant that they are used for that purpose by the Breton peasantry of to-day! Stonehenge has a similar north-easterly orientation.

It is not unusual to speak of these structures as "rude stone monuments"; this term is apt to be misleading. Rough and rugged they may be, but they have the singular quality of being deeply impressive and full of grandeur, particularly when seen when the sun is low on the horizon and each member is tipped with light. The Alignment of Menec is a very army of huge stones, the leaders standing some 10 to 13 feet high and dwindling gradually down to mere midgelets only 3 to 4 feet above ground. The lines stretch for over five furlongs, and doubtless they once extended farther, but unluckily the road to Ploemel has broken through the ranks, leaving only traces in the shape of fallen stones to guide us beyond. Pushing forward through a plantation, a new and far more imposing Avenue presents itself abruptly. It is the Alignment of Kernario. Striking as is the Avenue of Menec, that of Kernario is even grander, for it is composed of much taller stones. The line evidently at one

obtain a splendid view of the Alignments or Avenues stretching away from the village of Menec almost as far as the eye can reach, the finest and most complete examples of their class in the world. There are three distinct groups, those at Menec itself, those at Kernario—"the Place of the Dead"—and those at Kerlescan—"the Place of Burning"—note how the idea of the ancient ritual of the dead still clings to the modern place name. Originally each one of these Avenues of stones terminated in a cromlech, or stone circle, but time and the hand of man have dealt hardly with them; that at Menec, 300 feet in diameter, is now rudely broken by a house and garden. That at Kernario has vanished altogether, while that at Kerlescan is fairly perfect, but not altogether circular in shape.

The first two Avenues, those of Menec and Kernario, run in a direction south-west to north-east, the Avenue of Kerlescan, on the other hand, runs due east and west. There is a very distinct purpose in this orientation, for it must be remembered that the sun rises in the north-east on the summer solstice (longest day), while at the equinoxes it rises in the east. These Avenues would therefore be admirably adapted for festivals

OF NEOLITHIC CULTURE, THE ALIGNMENT OF MENEC IN BRITTANY

called after the hamlet of Menec which lies close by: it starts, as appears to have originally been the case with all of them, with a stone circle or "cromlech," in this instance 300 feet across, but now half obliterated by modern buildings. Thence the lines of stones, eleven in number, run in a north-easterly direction for over 1,000 yards, commencing with giants of 10 and 13 feet, and ending with small blocks no more than 4 feet high. The orientation of the Alignment supports the theory of a solar cult.

time commenced, as did all the Avenues, with a group of barrows (burial mounds)—but, alas, only one remains to-day! It is well situated, too, for it runs for some distance up hill, thus showing the stones to better advantage, and on the top of the hill is a windmill, built of blocks despoiled from the sacred ranks of the Avenue. One large "menhir," as the individual members of an Alignment are called, lies prostrate to-day, having been used as a tombstone in Roman times to cover a Gallo-Roman burial. At the end of this Avenue stands the chambered barrow of Kercado—the Place of S. Cado. Here once more there is a break before the commencement of the third Avenue, that of Kerlescan, which starts with the usual cromlech at its western end.

The Avenues alone are a mighty work, but the story of Carnac is but half told when they have been detailed, for chambered barrows and single stones cluster about the Avenues in every direction, and it is no flight of imagination to say that fully one-half of the standing stones in France are to be found in Brittany, more particularly in the region of Carnac. The largest of these "menhirs" lies prone at Locmariaquer, to the south-west of Carnac, broken into four fragments. When

standing it must have measured 67 feet high, and its weight must have been little short of 342 tons. In fitting proximity to this fallen giant is the celebrated chambered tomb of Gav'nis, without question the most beautiful Megalithic monument in the world. The long gallery buried in the heart of this tumulus is perfectly preserved, and is composed of upright stones supporting horizontal lintels; but unlike most of these graves, the stones used in building the chamber have been most elaborately carved with sinuous patterns composed of lines laboriously cut into the face of the granite, possibly with a chisel of hardened bronze. Authorities have in the past argued as to the relevancy of these patterns, and they still continue to be a matter of debate; they have been likened to finger-prints, but one of the most recent suggestions is that they are intended to be ideographic renderings of cornfields.

The most certain point in connexion with these monuments is their position in the sequence of vanished cultures and races. It is, of course, impossible to give an exact date for any one of them, but they may all be referred without much chance of contradiction to the closing stages of the Neolithic period, about 2000 B.C., and there is

likewise little doubt that they were erected by the Alpine race which dominated Armorica (Brittany) at that period. But the Alignment, or Avenue, is not peculiar to Brittany; it is to be found in Devonshire, with its accompanying cairns and circles. Examples may be seen in the "Long-stones" on Scorhill, the "Grey Wethers" under Sittaford Tor, and the "Spinster's Rock" at Drewsteignton, all exhibiting the essential features of the Breton monuments, though on a smaller and less magnificent scale.

The spot, however, most closely resembling Carnac is Avebury, in Wiltshire. Here it is possible to recognize the early Breton type of circle with its Avenue, while at Stonehenge can be traced the later developments of a similar but more advanced culture. While, therefore, it is possible to see a common origin at Carnac for the circles and avenues in England, there are in the case of Stonehenge certain distinguishing features that set it in a class by itself.

Until quite recently Stonehenge had not been invaded by the habitation of man, and consequently it has not suffered from destructive humanity to any great extent. It is therefore a fairly easy matter to reconstruct the main features of the monument. It comprises a circular earthwork 300 feet in diameter. Immediately within this earthwork once stood a circle of small stones, possibly about forty in number, which have entirely disappeared. The foundations of these stones have been recently explored, and rather more than twenty of them have been examined. What actually became of these vanished stones is at present more or less a mystery; they may, owing to their comparatively small size, have been lifted for utilitarian purposes, or it has been suggested that the "foreign stones" may have originally formed this outer ring. No definite conclusion on



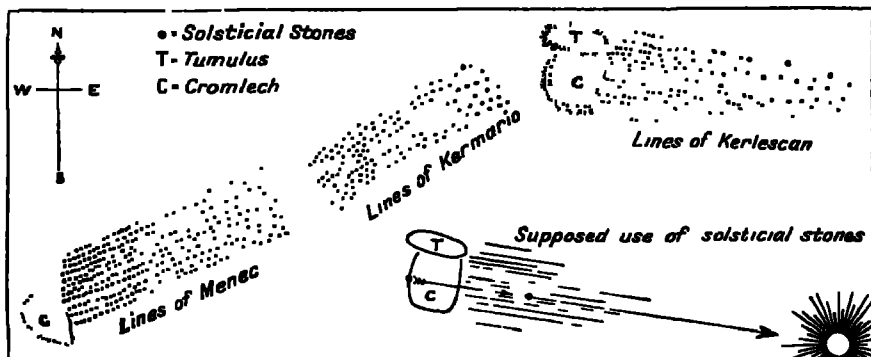
HELE STONE OR FRIAR'S HEEL

Though connected by legend with an adventure between the devil and a friar, this stone, by virtue of marking midsummer sunrise, is one of the strongest evidences that the cult practised at Stonehenge was a solar one.

Photo by Tomkins & Barnett

this point has yet been reached. On the north-east the circular earthwork opened out into an Avenue bounded by banks, and the most recent excavations seem to point to the suggestion that these banks were crowned with upright stones, in a manner similar to the Alignments of Carnac.

Standing in the centre of the Avenue and on the axis of the circle is a large unworked Sarsen (local) stone, known as the "Hele Stone" or "Friar's Heel." It is over this stone that the sun rises on the summer solstice. Between this stone and the main monument is a recumbent slab of Sarsen known as the "Slaughtering Stone." There appears to be no valid reason for this name. Careful investigation in 1920 revealed the fact that it had been dressed by hand, like the blocks composing the uprights of the outer circle, from which in point of size it does not seem to



THE SUN IN RELATION TO THE CARNAC MONUMENTS

This sketch-map of the Lines and Avenues at Carnac, besides showing their relative orientation, demonstrates how the same evidences of sun-worship that appear at Stonehenge may be found as well in Brittany. The Avenues, it will be observed, face two north-east and one east; towards sunrise, that is, at the summer solstice and at the equinoxes.

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differ in any way. A very possible conclusion seems to be that it was in reality an upright for the outer circle that had never been used. Two small unhewn Sarsens, situated inside the earthwork to the south-east and north west of the Circle of Stones, from their position might have acted as "pointers" for the observation of the sun at its rising on the winter solstice and at its setting on the summer solstice.

The cromlech proper consists of a ring of hewn Sarsen stones with imposts or lintels mortised to them. This mortice and tenon joint is one of the features of Stonehenge, and is not to be found in other circles. It is worthy of notice, too, since it is essentially a carpenter's joint such as would be expected from a race familiar with working in wood and emerging perhaps from that stage of culture to the more difficult art of the mason. The "impost" stones are fitted one to the other by "toggle" joints. This circle enclosed a concentric circle of small upright stones, composed of a rock foreign to the neighbourhood. These

are the mystery stones of Stonehenge, twenty-nine are dolerites or diabases, and four are rhyolites. Many localities have been suggested as the home of these "foreign stones." The latest opinion on the subject is that of Dr. H. H. Thomas, of the Geological Survey, who locates the rock in the eastern end of the Prescelly Mountain in north Pembrokeshire, a distance of 180 miles from Stonehenge. They were certainly brought to the spot by human agency, for the older theory of glacial drift has now been definitely abandoned.

The question will at once suggest itself why were they brought when stone could have been obtained from a source far nearer than the distant mountains of Pembrokeshire? The possible reply to this is that the uprights at one time formed a circle elsewhere, and that having thereby acquired a special sanctity were transported in the same way as other stones, and images of conquered gods, under the compelling stimulus of religion.

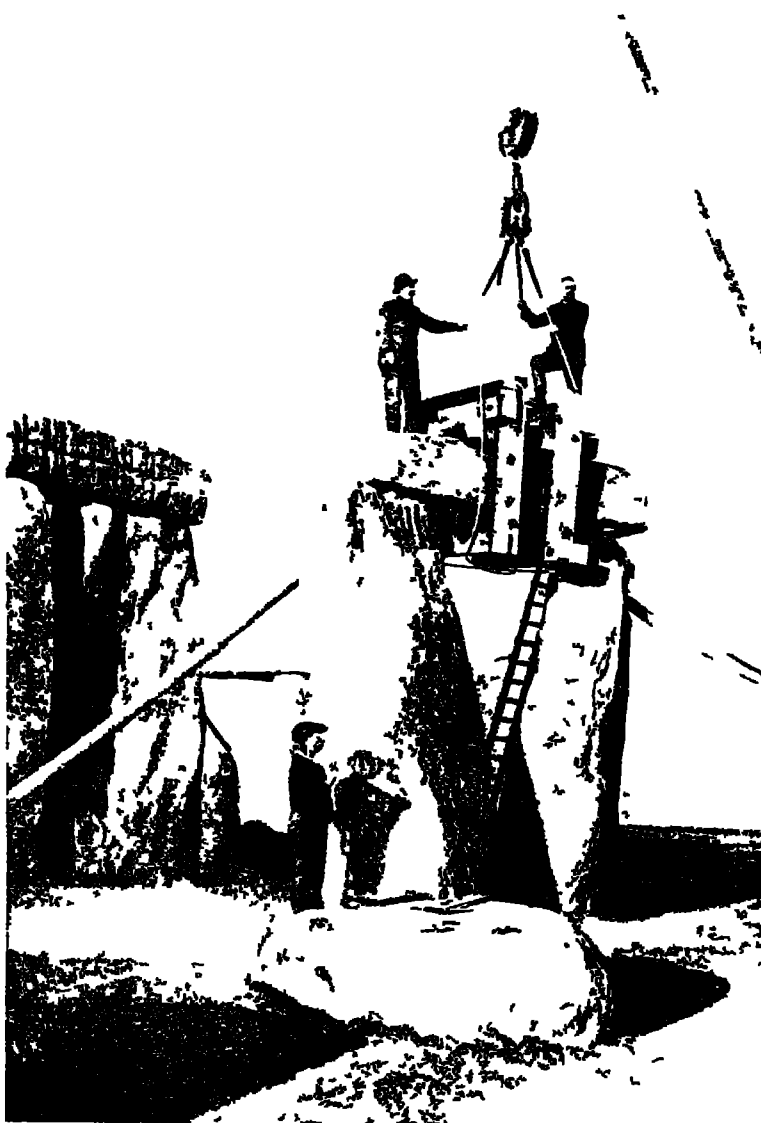
So far the circles at Stonehenge, although more elaborate than others, have differed but little in



SURVIVING MENHIRS OF AVEBURY'S GREAT OUTER CIRCLE

Second now to Stonehenge. Avebury was once England's greatest megalithic monument. Originally it consisted of several hundred huge stones arranged in two circles enclosed within a third, but the ruthless vandalism of eighteenth century farmers resulted in the disappearance of the great majority. The size of the constituent menhirs may be gauged by the two known as Adam and Eve, seen standing beside the cottage in this photograph.

Photo W. F. Taylor



LIFTING AN IMPOST AT STONEHENGE

To come to the dangerous position of this trilithon which with the lapse of time had become seriously tilted, it was necessary to employ tackle blocks and ladders when the impost must be dealt with. If we tried to do the original builders raise such enormous masses with no such modern devices at their disposal?

plan from those at Avebury, Carnac and elsewhere. At this point, however, a new arrangement presents itself. Within the two concentric circles at Stonehenge there formerly stood five large detached trilithons arranged in horseshoe form with the open end facing to the north-east. To day only two of these five trilithons are standing. The central or as it is generally called the "Great Trilithon" fell in 1620, breaking one of its uprights at the time, and with the impost now lies in ruins on the so-called Altar Stone. Following the line of the horseshoe of detached

trilithons is a similar arrangement of the "foreign stones," already mentioned, and in the apse formed by these five trilithons lies the "Altar Stone" amid the debris of the fallen "Great Trilithon." The Altar Stone is a slab of micaceous sandstone which may have come from Somersetshire, or again, following Dr Thomas' suggestion from as far away as the north shores of Milford Haven.

It will have been noticed that two of the Alignments of Carnac face towards the north-east, in the same direction as Stonehenge, that is, towards the rising of the sun at midsummer. It is also interesting to note that the Alignments of Carnac terminated at one time in cromlechs, or stone circles. Stonehenge is only the perfected example of this form. Associated with these Megalithic monuments are the burial places (dolmens and barrows) of the vanished race of builders, and the idea of a great temple of the sun surrounded by a necropolis is irresistible. Two thirds of the burial mounds in Wiltshire lie round Stonehenge, and much the same can be said of Carnac. And similarly the importance of the contents of these burial mounds is greater in the immediate neighbourhood of these circles than in those at a distance from them. Gold and amber have been found in the Stonehenge barrows, and

callais, a very rare semi-precious stone at Carnac, and at both places stone implements

of the finest quality, together with elaborate sepulchral pottery have come to light. Whatever their purpose may have been, these stone lines and circles remain both at Carnac and Stonehenge as an indisputable fact, and as eternal evidence of the Hololithic builders herculean toil.

How was it possible for a primitive people to deal with such problems as the transport and erection of these stones presented? What were their means of overcoming the engineering difficulties? We must presuppose plenty of willing hands plenty of time in which to accomplish their



RELICS OF A CULTURE 4,000 YEARS OLD IN THE NEIGHBOURHOOD OF CARNAC

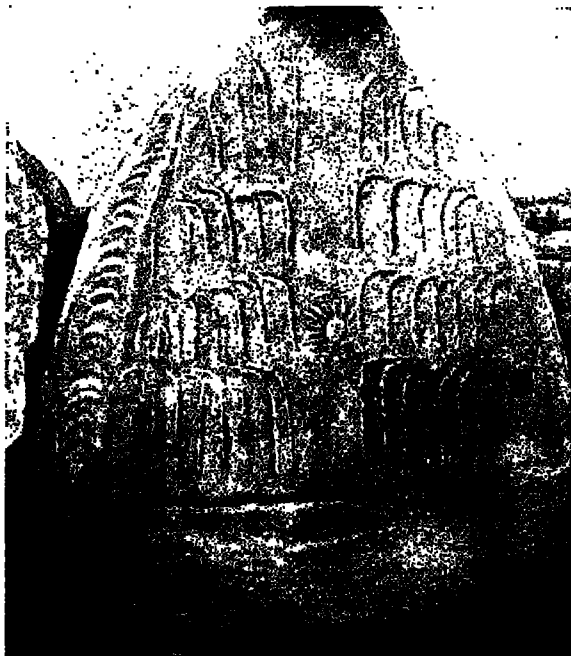
Upper photograph The fallen Menhir of Lezmariaquer in Brittany This giant is the largest "menhir" (single upright stone) known to us, but is the fall which broke it into four pieces it was over 67 feet in height In the photograph the fallen stone is in the same district in the same district as the "dolmen" type of monument Dolmen is a burial chamber and consists of a complete set of a ring of upright stones, roofed with a single slab the whole being covered with earth and washed with



A STANDING GIANT IN ONE OF THE LINES OF THE CARNAC AVENUE

This photograph is of one of the taller stones towards the beginning of the Avenue or Alignment of Menec beyond it on the right stretch the mysterious lines of which it is part, and at whose purpose we may only dimly guess. It seems likely that these strange monuments were erected in the neighbourhood of 2000 B.C. by a mixed people of which some elements had affinities with the Mediterranean race that left its remains in Crete and Malta while others were drawn from the so-called Alpine type. This people appears to have led a settled agricultural life which is in added reason for supposing that their monuments are connected with the worship of the supreme fact of the farmer's life the sun.

work, an abundance of strong, tough ropes made possibly of plaited hide, tree trunks for rollers, and rough but useful tools of stone, not the delicate knives and points of the barrows, but ponderous stone hammers weighing fifty pounds or more, flint chisels, and small hand hammers, not particularly well fashioned but admirable for the task. Many of these implements have been discovered at Stonehenge during recent excavations, together with picks made from the antlers of the red deer. Similar implements have been found at Carnac and elsewhere. The mechanical principles involved would call for a knowledge of the lever, but the laws of leverage are fairly well known even to children. In Stonehenge and also in the dolmens of Carnac another problem was the calculation of the foundation necessary for the erection of each



SIGNS AND THEIR INTERPRETATION

On the inside of one of the end supporting-stones of the "Table des Marchands" are certain strange engravings, which, according to the opinion of some, are intended to represent fields of wheat, with a figure of the sun in the centre. To illustrate this theory a photograph of wheat-stalks is appended with their heads bowed under the weight of the grain.

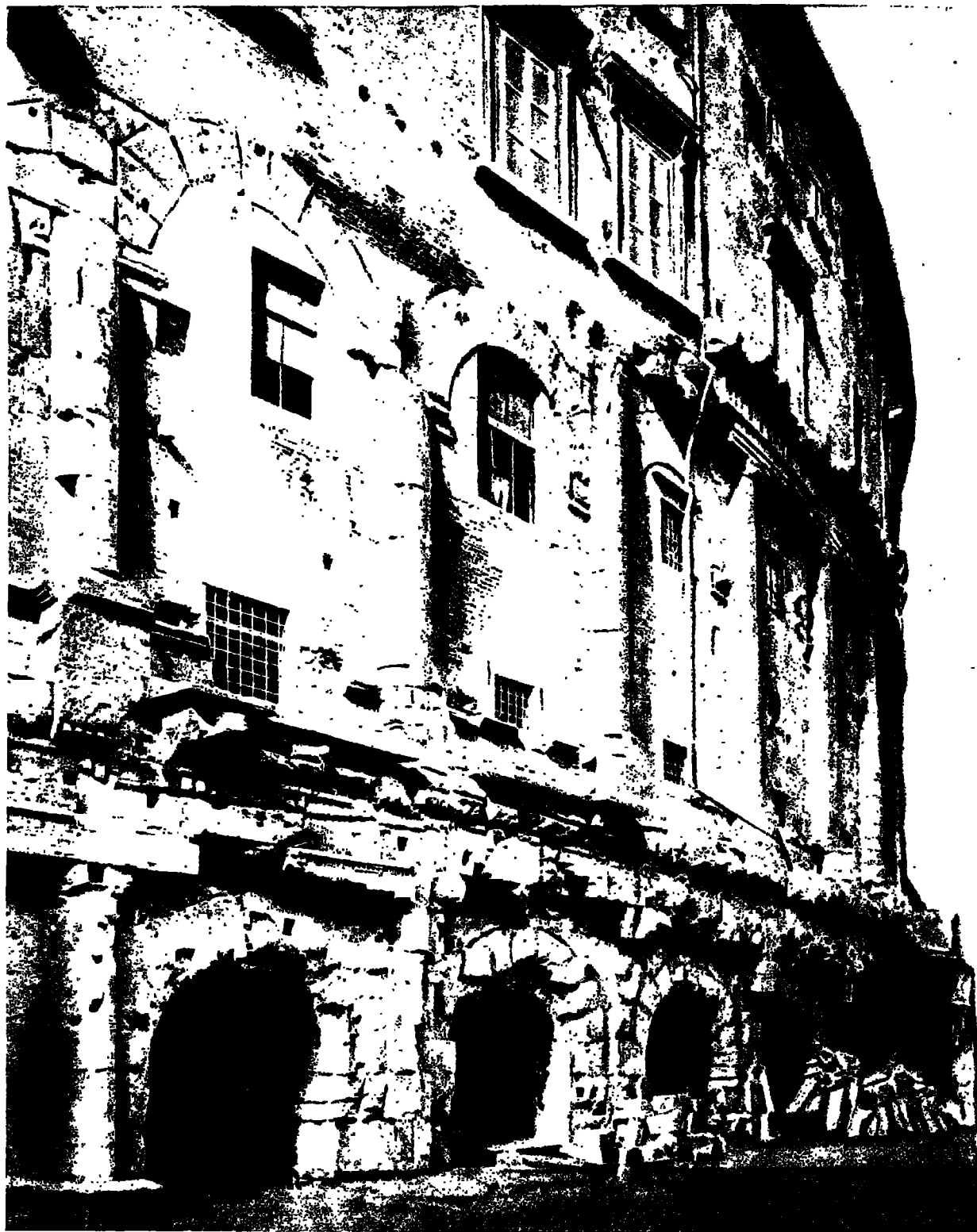


GRAVINGS IN THE GALLERY OF GAVR'INIS

Other strange markings are to be found on the slabs forming the side walls of the wonderful gallery within the tumulus of Gavri' Inis near Locmariaquer. They take the form of whorls and spirals, so that they have been thought to represent the markings on the human thumb; more probably they are elaborations of the "wheat-field" design.

stone. In the case of the Great Trilithon at Stonehenge, the two uprights were respectively 25 feet and 29 feet long. In order, therefore, to secure a trilithon 21 feet above the level of the ground, the one stone had to be buried 4 feet, while the other needed a depth of 8 feet to make the two summits of equal height. The same process of calculation would be needed for every upright stone forming the trilithons.

There is one point, however, which remains to-day without any satisfactory solution. How were the lintels or imposts set upon the uprights? There are many suggestive theories as to how this was effected, but here again, as in the case of the "foreign stones," there is a considerable lack of positive evidence. Doubtless a day will come when even this secret will be revealed, and that day may be nearer than we think. Each year the riddle of Stonehenge approaches closer to its final solution, thanks to the labours of the expert excavator, who bit by bit is piecing together the shreds of evidence as they come to light, weighing each fact, and estimating it at its true value in the scheme of this, the most impressive neolithic monument in Britain.



GLORIOUS ARCHITECTURE CLEARED OF THE ACCRETIONS OF LONG AGES

Kaystom

In its pristine condition a structure of remarkable beauty, the Theatre of Marcellus was completed by Augustus in 13 B.C. It was converted into a fortress in 1086, and in 1526 the Palazzo Savelli was built upon its ruins. Since then its walls have been concealed by a huddle of mean superstructures, the upper storeys of modern houses have replaced its third, Corinthian, storey, and squalid shops occupied its Romanised Doric basement now half buried under the street. These are now being cleared away, and the massive arches on which the building is carried and the beautiful Ionic second storey are once more revealed to admiring eyes.

Rediscovering Ancient Rome

By the Editor

AFTER we have recalled most of the wonder cities of the ancient world and looked at the wonder cities of our own day, there still is—Rome. In a way that is almost miraculous Rome has contrived to make the best of two worlds. She grows more wonderful every year. The real marvel of modern Rome is that as the new city, in its streets and boulevards differing hardly at all from the new areas of Paris or London, has been rising on the wreckage of the past, the new has been conquered by the old.

Some of the most remarkable remains of the classic city came to light when an area was being cleared for the erection of an important bank building. Probably at any other era of the modern city the bank building would have gone up and the ancient remains would have been incorporated in its foundations or entirely wiped out. Not so under the quick hand of Mussolini. The Dictator had become fired with the ambition to recover from the debris of the past everything that might be restored of ancient Rome, even at the expense of clearing away the modern structures that covered or obscured it. No long months of parliamentary discussion and the passing of a bill through two houses of parliament being necessary, the order was quickly given, that not only should these ancient remains be preserved, but that wherever in other building operations remains of any importance were brought to light, the hand of the destroyer should be stayed until the officials in charge of the antiquities had time to investigate and report upon the importance of the discovery. It is thus that since 1926 the unrivalled wonder city of all time has witnessed a truly astonishing transformation in its central areas.

To describe the resurrection of ancient Rome in the rebuilding of the new is not an easy matter. The reader must be supposed to have some topographical knowledge of the ancient city in order properly to appreciate the very remarkable discoveries of recent years. I shall therefore attempt no more than to set down some generalisations contrasting the ancient with the modern, and to examine particularly the recovery of the imperial forums, the most noteworthy of the Mussolini restorations.

THERE is need, however, to stress the fact at once that in much that has been published concerning this transformation of recent years the tendency is to give the impression that future visitors to Rome will be able to see large portions of the imperial city as it was in the days of Augustus. Now, this is not so. It is true that the persistent past which has been successfully striving with the present is a past that takes us

back even to Republican days, more than two thousand years ago. The actual remains from those days, however, are fragmentary beyond all reconstruction, except in the eye of the imaginative beholder. Most of the imperial city with its incalculable treasures of marble sculpture had either been ground down to make mortar for new buildings or incorporated stone by stone into the medieval structures. Indeed, among the discoveries which have recently been made is a medieval builder's yard, where, among the stock of old sculptured marble waiting to be broken up for mortar when the business would appear suddenly to have ended, are many charming items of ancient carving.

In all ages the real iconoclasts and destroyers of ancient



LONELY MONUMENT OF A BUSY MART

Until Mussolini inaugurated the excavations of Rome's archaeological remains these three columns of the temple of Mars Ultor were all that was visible of the Forum of Augustus, whose site could be viewed from the ruled footpath. The site as recently cleared is shown in page 823.



PRESERVATION PREFERRED TO RENOVATION IN A STORIED CITY

Preparations for the erection of a huge modern building in the Largo Argentina resulted in the discovery, 20 feet below the street level, of four Roman temples dating from the fifth to the first century B.C. The government secured the site and are preserving it as an archaeological zone in the very heart of the city (top). Another valuable discovery made during the demolition of old houses was the market zone and the oriental hemicycle of Trajan's Forum (bottom) that was a chief glory of Imperial Rome.

beauty have not been the hordes of Goth or Vandal that have besieged cities sacked them, and impaired their beauty by fire or otherwise. Incomparably the greatest damage wrought on ancient objects of architectural beauty has been that done in later ages by unimaginative builders concerned only to produce out of the nearest available material some new and quite utilitarian structure. So it was with Rome in the Middle Ages except that the new buildings which then arose in the papal city had a dignity, a beauty, a strength of their own and if embodied in their walls and foundations there is much of what once added to the glory of the classical city it was transformed rather than lost. But this medieval Rome where it chose to overlay the ancient city builded itself so substantially that it will never be possible to resurrect the skeleton of the past that lies beneath it.

What is seen therefore in the surprising new vistas that please and astonish the eye of the visitor to Rome familiar with the city for thirty years or more is the ruined city of antiquity as the popes and princes of the fifteenth and sixteenth century looked upon it from their palaces and towers—a beautiful mingling of picturesque ruin and challenging strength.

Apart from its numerous churches, medieval Rome was mainly a city of great family strongholds built among the debris of the past where within high-walled enclosures the nobles with their numerous retainers maintained themselves in a sort of baronial independence. The lower classes sheltered themselves in broken arches and corners of ancient buildings which with a little patching of stone and wood could be made to serve as human habitations. Numerous convents, monasteries and houses of the religious orders of knighthood such as the Knights of Malta and of Rhodes occupied prominent positions within the ancient walls and in almost every case were built upon or adapted from the remains of the classical city. This medieval Rome bore little resemblance to the city of the Caesars and it is possible to restore only such areas of the ancient city as were not entirely overlaid by the medieval. The Forum between the Capitol and the Arch of Titus being a vitally historic region into which these medieval buildings had least



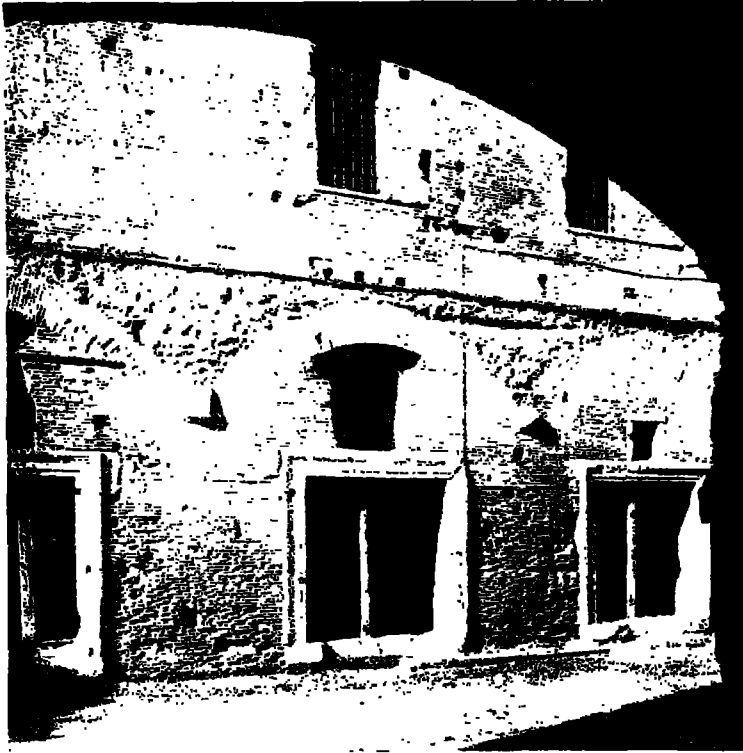
RESTORATION WORK IN TRAJAN'S FORUM

When originally erected Trajan's column was purposely set in a narrow court between buildings almost as tall as itself from the several floors of which it was intended that the relics upon it might be examined. These were gradually replaced by modern buildings which are now being cleared away and some of the broken columns in the Forum are being re-erected.

PLATE 10 II

obtruded or possibly from which they have been most successfully eliminated.

If it were possible to imagine a person arriving in Rome to day entirely ignorant of the history of Europe knowing nothing of the tremendous things in the making of mankind from which the name of Rome can never be separated if we could further imagine that person being impressed merely by the animation of the streets with their splendid modern buildings and imposing old churches the most remarkable thing that he would see before he got as far as St. Peter's or had yet discovered any of the imperial forums would be the gigantic Victor Emmanuel memorial which took about forty years to erect. This dominates the modern architecture of the city more effectively than anything in the past could have done excepting perhaps the magnificent



mass of palace buildings that once stood upon the Palatine Hill. But this grandiose memorial of Italy's new independence is not a thing of loveliness. It is out of harmony with the antique beauty of the city. It is aggressive, pretentious, and lacks that austere dignity which was hardly ever absent from any of the great public memorials of the Caesars, if we except the gigantic statue of Nero which stood before his Golden House.

Our imaginary visitor, who by some strange freak has contrived to know nothing of the history of Rome until he arrives there, will certainly not be so ready to class it among the wonder cities of the world until he has found his way to the Forum, and learned about the great events in the world's history that took place among these actual stones which, after long ages of neglect, are now treasured as the most precious of the possessions of the modern city. For the modern Roman, with all his flamboyant energy showing itself in the fine new city which he has built, and in the immense national monument which he has

set most prominently in its midst, has been striving to make of his everlasting alluring city a modern wonder, only to find that in spite of all his energy the ancient landmarks still outshine, even in their broken state, any modern achievement of his genius.

The most remarkable of the discoveries which have been made in the carrying out of what I may call the Mussolini transformation of central Rome has been the unearthing of the Forum of Augustus and the clearing of the eastern section of the adjoining Forum of Trajan. Probably there is no more familiar object in Rome than the column of Trajan rising from the centre of the Forum which he built in the years 113-117 to commemorate his Dacian victories, and also to provide for the growing needs of a populace clamorous for increased market facilities. For generations the portions of Trajan's Forum that had been spared from the overlaying of modern buildings stood as a rather wretched oblong depression, from the centre of which ascended the noble column with



Municipality of Rome, photos, Cesare Faraglia

IMPERIAL ROME'S GREATEST SHOPPING CENTRE

Excavation has disclosed the almost complete remains of Trajan's market. It was semi-circular and consisted of three storeys with shops along corridors on each floor. The principal gallery is shown here. The market followed the ancient Via Biberatica (top), where arches and some of the windows of Trajan's building have long been visible.



GRACEFUL RELIC OF CHIVALRY OF THE MIDDLE AGES

In the recovery of the buildings of the classical city from the superincumbent accretions of centuries, the officials in charge are showing admirable discrimination as to what should be demolished and what retained. Thus, in the clearance of the imperial forum of Augustus and of Trajan, while, as shown in page 823 (bottom) the Convent of SS. Annunziata has been swept away, the charming and useful loggia of the Knights of Rhodes has been preserved, providing a medieval link between the present and the remote past.

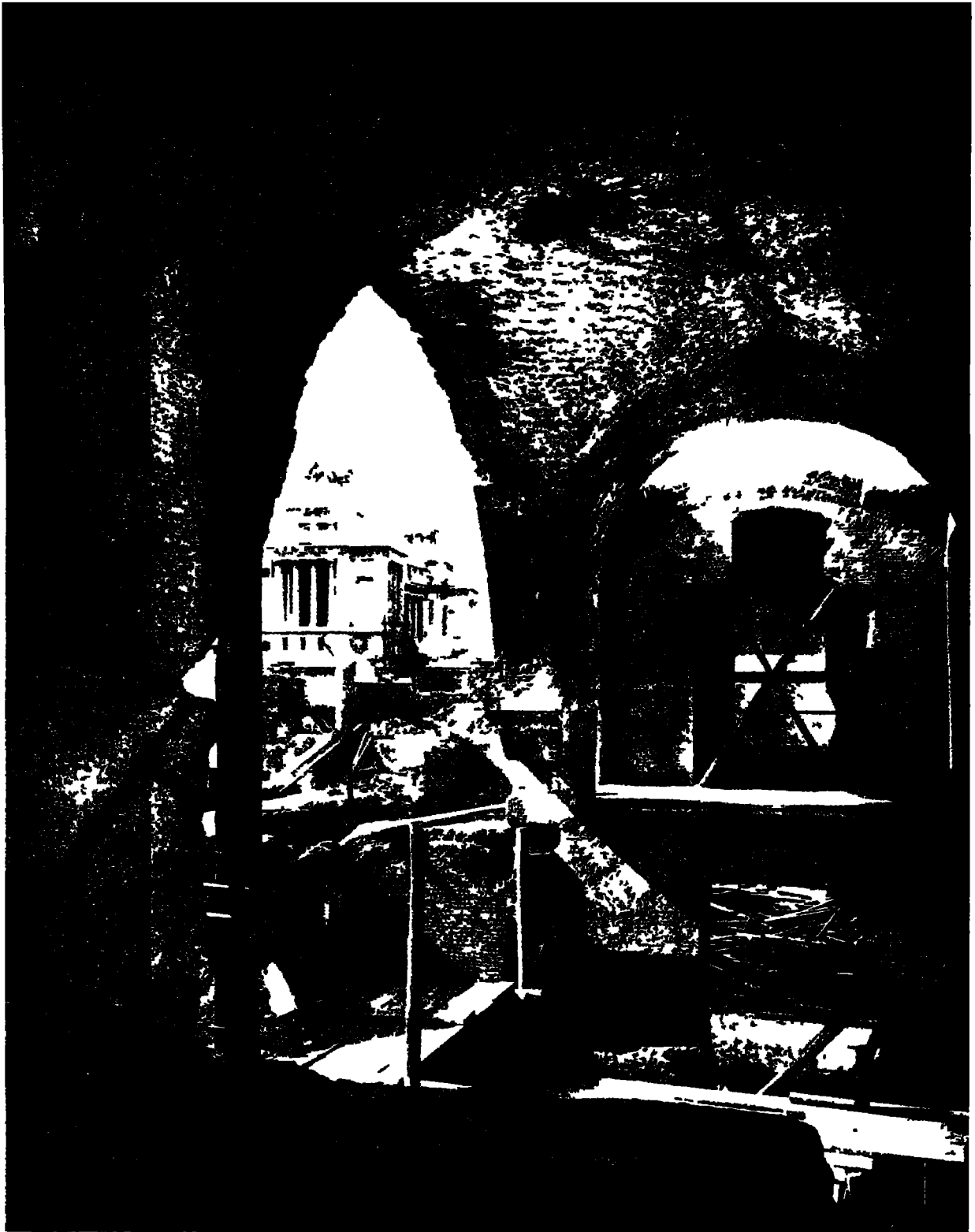
its crowded reliefs of scenes from the Dacian wars. Within the railings around the Forum innumerable cats used to live and breed, enjoying a sort of sanctuary. What a commotion in the feline world there must have been when the unearthing of large hidden areas of the Forum was begun! The total area was vastly increased by clearing away the buildings which intervened between the central part and the eastern hemicycle.

The Forum of Augustus, separated from that of Trajan by nothing more than the thickness of a wall, was a superb market place built by the emperor in the year 13. In its centre stood the temple of Mars Ultor, a white marble building of such supreme beauty that Pliny described it as the finest work of the hands of man. Of the temple nothing more than three columns has been visible for centuries, a venerable convent usurping most of the site. To day this convent building is no more, the whole wide area of the nobly planned Forum of Augustus now stands open to the beholder.

Although little indeed remains of the temple of Mars, or of the buildings which surrounded the Forum wherein the merchants did their business, it is astonishing to find so much as now appears. No great imagination, and only a slight historical knowledge of the period, are necessary to re-create the busy

scene which for the first four or five hundred years of our era was daily witnessed on this spot.

If the energy of the excavators and restorers had done nothing more than open up the Forum of Augustus to the light of this later day, the Mussolini policy would have had ample justification, but this is merely typical of what is going on in many other parts of this ever wonderful city where, for instance, the superbly built theatre of Marcellus, which was begun by Julius Caesar and finished by Augustus in A.D. 13, has now been freed from the clutter of mean and insanitary buildings that adhered to it for ages, and stands forth in a new dignity and a completeness which makes it almost rival the Colosseum itself. Numerous other 'finds' would have had to be chronicled had one been attempting what is impossible in the slight space here available, to give anything like an adequate record of the old Rome that has come up like an underwriting on a palimpsest when the upper surface has been scraped away. In some ways one of the most remarkable of the numerous discoveries has been the disentangling from a surrounding mass of buildings of a tenement dwelling of the second century A.D. which contained no fewer than seven storeys, including the basement. The tallest of the ancient buildings hitherto known were those at Ostia, to which I made some reference



Courtesy of Municipality of Rome photo Lemie Baragli

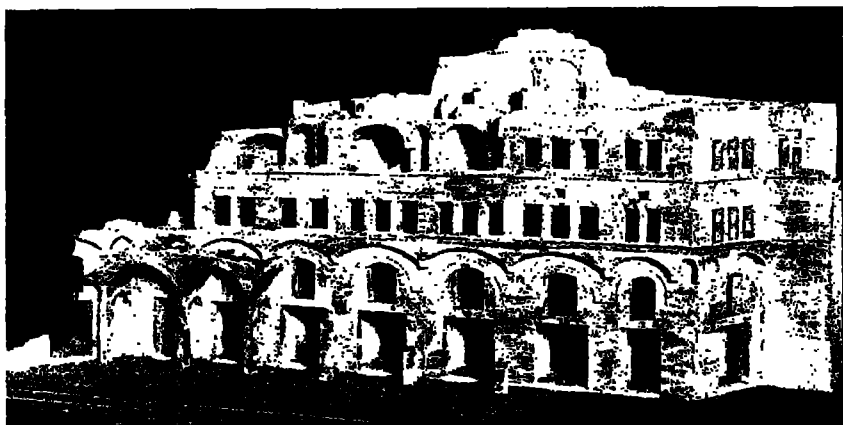
GRANDIOSE MEMORIALS OF ANCIENT EMPEROR AND MODERN KING

The juxtaposition of ancient and modern to be seen in Rome alone of all cities. It shows in the foreground the modern covered market found behind the Forum of Trajan. And through the archway is the ancient column of Trajan, erected to that Victor Emmanuel who in 1861 became first king of a united Italy, more than seven centuries after Trajan whose column stands near by returned to dust.



ANCIENT GLORIES DISINTERRED FROM MEDIEVAL CONVENT GROUNDS

Until the summer of 1924 the buildings and the garden of the Convent of SS. Ann and St. Peter were in a ruinous state. The buildings have now been demolished and the earth removed right down to the floor of the temple of Minerva. The great 100 feet high wall that was built to protect the Forum from being overlooked from the mountain side has been removed from this wall except the medieval house seen on the left of the Knight of Minerva.



Archaeological Dept., Municipality of Rome, and Prof. Halbherr

TOWERING TENEMENT BUILDING OF 1700 YEARS AGO

Excavations between the Victor Emmanuel monument and the Church of Santa Maria in Ara Coeli have disclosed a second-century tenement house that must have had at least seven storeys, as shown in this model reconstruction, the lower storeys descending to a depth of 27 feet below the present ground level. The storeys above ground are shown in the upper photograph.

in my chapter on the Modernity of the Ancient World. As none of these seems to have contained more than five floors, the revealing of this seven-storeyed tenement of the imperial city is a vivid proof that if the ancient builders did not rival in height the soaring rookeries of modern Naples, they could erect large blocks of commodious 'flats' as efficiently as the builders of our own day.

It is probable that every visitor to Rome will bring away from it a different impression. All of us who travel widely must bring away from the places we visit something that we take with us. It is that something which differentiates the impressions of

travellers. To me the endless fascination of Rome is the illusion (for such I know it to be) which it imparts of things eternal. No other city in the world has this magical power. S. Peter's, wherein splendour and dignity are so wonderfully associated, and all the multitudinous churches that besprinkle the city, symbols of a religious way of life which has conditioned the thoughts and actions of unnumbered millions for eighteen centuries—to see these still holding the sites which for many ages they or others of their kind have occupied, is to be impressed with a sense of enduring things.

Especially to go among these churches of Rome, this unaging mother of the Christian faith, and observe their vitality, while alongside of them still linger the numerous dead landmarks of a much more ancient past, and of a religion that could not withstand the advance of Christianity, gives to the visitor—to one visitor, at least—this comforting sense of continuing things as opposed to the impression of the purely ephemeral side of life presented by Paris or New York. The real fascination of modern Rome is that it is rooted in the past, that it looks before and after, and is less concerned with the things that are than with those that were and are to be.

The Seven Wonders. VI.

The Pharos of Alexandria

By J. A. Brendon, F.R.Hist.S.

Author of "The Story of the Ancient World," etc.

LIGHTHOUSES, of a sort, seem to have been known on the coast of Egypt before the time of Alexander the Great, and Lesches, a minor poet who lived about 600 years B.C., refers to one on the promontory of Sigaeum, in the Troad. The Pharos of Alexandria, however, which was built by Sostratus during the reign of Ptolemy Philadelphus (285-247 B.C.), is generally accepted as the father of lighthouses, and it ranked as one of the Wonders of the World.

Constructed of white marble, the Pharos of Alexandria was built on a rock at the north-east corner of the island of Pharos, and, to facilitate the work of construction and maintenance, the island was connected with the mainland by a great causeway known as the Heptastadium. This causeway, owing to the conglomeration of silt which gradually has banked up on either side of it, is now an isthmus, thickly populated.

Whether the island took its name from the lighthouse, or the lighthouse from the island, is not certain. "Pharos," however, in various forms, has been adopted as the word for lighthouse in many languages. A lighthouse in Latin is *pharus*; in Spanish and Italian it is *faros*; in French *phare*; and *pharos* has not been obsolete for very long in English. The Romans copied their lighthouses directly from the Pharos of Alexandria—the *pharus* at Ostia, for example, and that at Carthage.

Pliny, the Roman historian, who perished at Pompeii when that city was destroyed by the terrible eruption of Mount Vesuvius in A.D. 79, has given us a description of the Pharos. He wrote: "There is another building, too, that is highly celebrated; the tower that was built by the king of Egypt on the island of Pharos at the entrance of the harbour of Alexandria. The cost of its erection was eight hundred talents, they say; and not to omit the magnanimity that was shown by King Ptolemy on this occasion, he gave permission to the architect, Sostratus of Cnidus, to inscribe his name upon the edifice itself. The object of it is, by the light of its fires at night, to give warning to ships of the neighbouring shoals, and to point out to them the entrance of the harbour. At the present day there are similar fires lighted up in numerous places—Ostia and Ravenna,

for example. The only danger is that when these fires are kept burning without intermission they may be mistaken for stars, the flames having very much that appearance at a distance."

If the Pharos cost only eight hundred talents it was very cheap at the price, even allowing for the fact that slave labour was employed in its construction. Eight hundred talents would have been the equivalent of, say, £200,000 of English money. Sostratus, the architect, was a son of Dimocrates, the architect of Alexander the Great, and the inscription he engraved on the edifice was: "Sostratus of Cnidus, the son of Dimocrates, to the Saviour Gods, for those who travel by sea."

In connexion with this inscription, other writers have affirmed that Sostratus, being well versed in the ways of old-time princes, feared lest he might be required to make the building commemorate not his own, but his royal master's, fame. So, having finished his inscription, he covered it with a layer of cement, and in this made another inscription which glorified Philadelphus, but which the action of sea and weather soon removed.

Edrisi, an Arabian geographer of the thirteenth century, asserted that the Pharos was 600 feet high. "Its height," he wrote, "is three hundred cubits, taking three palms to the cubit, and so its height is one hundred statures of men." Another authority gives the height as 400 ells or 590 feet. Whatever may have been its exact dimensions, there can be no doubt that it was an extraordinarily lofty building.

It was built, after the Babylonian fashion, in the form of eight—or, according to some accounts, four—towers, or storeys, one above another, and each smaller than the one below it. The lower towers were square, and those at the top circular. A broad balcony, superbly decorated, surrounded the foot of each tower; and that the whole building might be imperishable, impervious to the incessant buffeting of the sea against its northern face, the blocks of stone were welded together, we are told, not with cement, but with molten lead.

At the summit a great brazier was kept constantly burning, "a pillar of fire by night, of smoke by day." For supplying this brazier with fuel the ingenious Sostratus made admirable provision.

An inclined plane ascended the lower half of the building, and so gentle was the gradient that laden horses, and even chariots, could easily be driven up it. From the top of this roadway fuel was conveyed to the brazier by means of a windlass up a hollow shaft in the centre of the higher towers.

Of the interior of the Pharos little is known. It is said, however, to have contained three hundred spacious rooms, and to have housed a considerable garrison.

According to Arab tradition, the lighthouse was built on a foundation of glass. Before deciding on the material to use for the foundation, Sostratus, we are told, "threw stone, brick, granite, gold, silver, copper, lead, iron, glass, and all kinds of minerals and metals into the sea to test them. When they were taken out and examined, the glass alone was found of full weight and unimpaired." So glass was chosen—in great blocks.

In the eyes of the Arabs, who conquered Egypt in the seventh century, the most wonderful feature of the Pharos was the immense mirror at its summit. Legends assert that in it one could see all that was passing in the distant city of Constantinople, and that the glass could be turned to reflect the rays of the sun, and so burn ships while they were 100 miles out at sea.

Legends usually rest on some basis of fact. We can, therefore, liberally discount Arab imagination and still believe that Sostratus, by means of brazier and mirror, contrived to produce a light more powerful and penetrating than any devised by man until modern times; and that he anticipated the invention of the lens.

In the ancient world sheets of polished metal served normally as mirrors. The mirror of the Pharos is said to have been fashioned from transparent stone. Probably, however, glass was

the substance used; and such was the size of the mirror that the men who lowered it from its place, after it had been guiding mariners for a thousand years, had not the skill to replace it.

The Arabs, after their conquest of Egypt, continued for a long time to maintain the Pharos. Its light was finally extinguished as a result of a stratagem. In Mahomedan hands the Pharos served directly to help the enemies of Christendom. So, in the ninth century, the emperor sent an emissary from Constantinople to destroy it. This man wormed himself into the confidence of the Caliph, Al-Walid, whom he regaled with wonderful stories of treasure buried under the Pharos. The Caliph eventually, his cupidity aroused, gave orders for the building to be dismantled. Not until nearly a half of it had been pulled down did he suspect a plot. Subsequently the Arabs attempted to rebuild the lighthouse with bricks, but they failed to raise it to its former height, and the famous mirror, when they tried to replace it, fell and was broken into a thousand pieces.

After this, the Pharos appears to have been converted into a Mahomedan mosque. But towards the end of the tenth century, when Cairo was built, the Arabs left it—and Alexandria as well—almost entirely deserted. Despite centuries of neglect, the lower part of the great tower was still standing in the fourteenth century. In 1375 an earthquake hurled it, a mass of formless stone into the sea.

During recent years numerous attempts—notably that of a German expedition in 1898-99—have been made to identify the ruins. None has resulted in a convincing success. In calm, clear weather, however, what are alleged to be the foundations of the Pharos still are visible beneath the sea near the present Fort Kait Bey.



ANOTHER TENTATIVE RECONSTRUCTION OF THE PHAROS OF ALEXANDRIA
Reconstruction drawing by A. Forestier from M. Gaston Jondet's "Les Ports submergés de l'Antenne de la Pharos"

The Great Monuments. VIII.

The Hittites: Vestiges of a Vanished Empire

By J. Garstang, M.A., D.Litt., D.Sc. (Oxon)

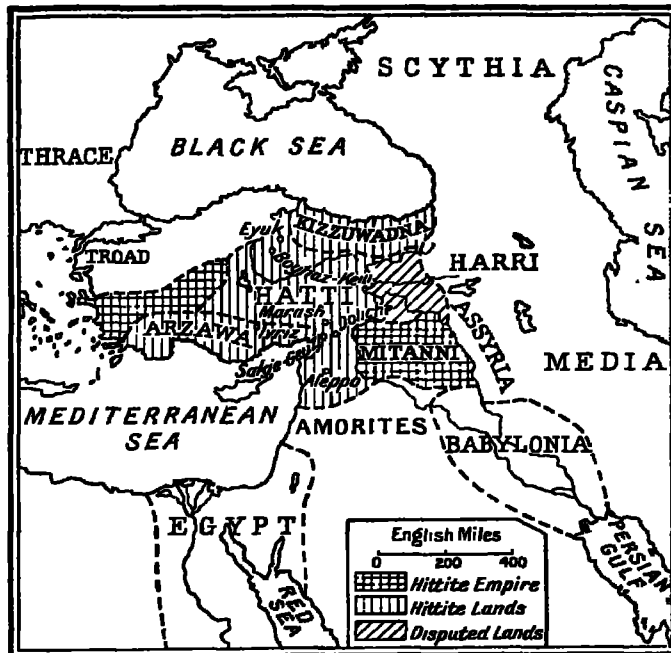
Professor of Archaeology in the University of Liverpool and formerly Director of the British School of Archaeology in Jerusalem and of the Department of Antiquities for Palestine

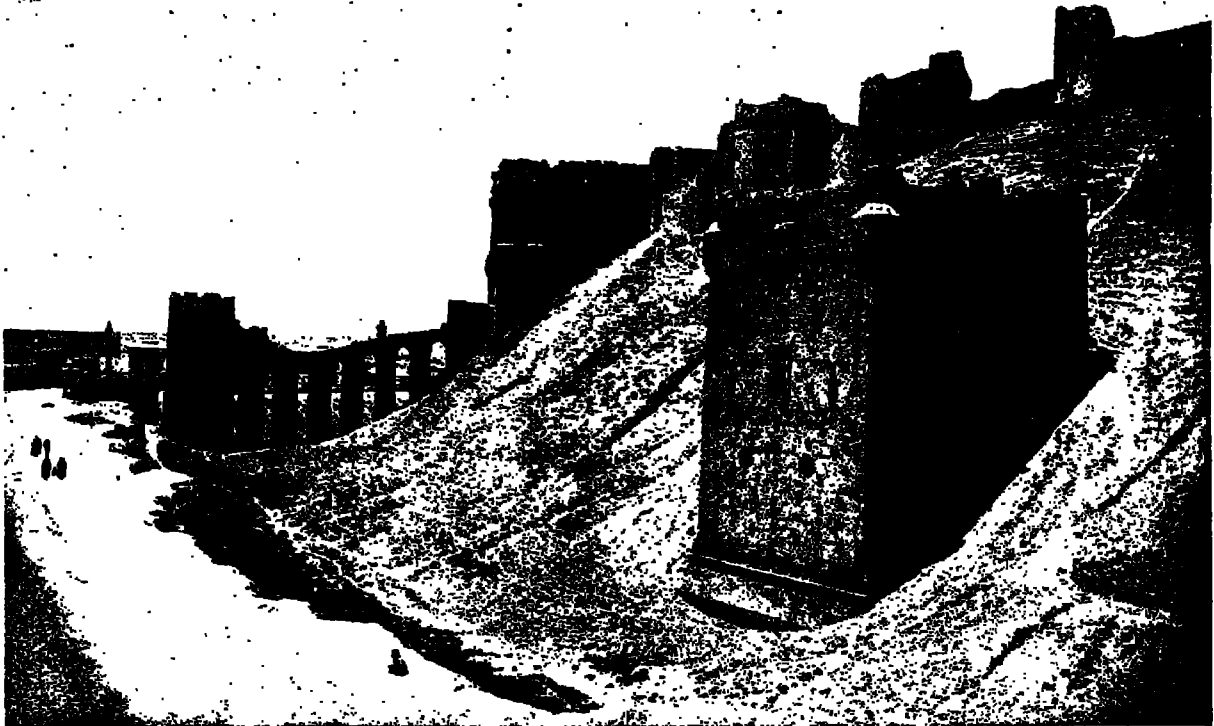
AMONG the Wonders of the Past the long forgotten Empire of the Hittites now claims a place. Older and more enduring than Assyria which has left its useless name in red upon the page of history, the Hittite dominion in Asia Minor—though without a name which defines its territory—left a permanent impress upon the destinies of the ancient world, and so upon the civilizations of to-day. This influence was of twofold origin: primarily, the unique geographical position of Asia Minor which is the natural line of communication between the two continents first civilized and a consequent meeting place of advanced races; secondarily, the strong character of the Hittite peoples illustrated alike by the tendencies of their institutions and religion and by the efficiency of their rulers. At such a focus only a strong race could have sustained the rôle that was demanded of them, for theirs was no light or easy part in the drama of nations.

From the Anatolian plateau they might look down indeed upon the distant monarchies of Egypt and Babylonia, slumbering in peaceful prosperity provided by the Nile or the Euphrates. With these two peoples, though an occasional bid for empire led at different times to conflict, ended at last by the establishment of diplomatic relations, the Hittites maintained effectively a triangular balance of power in western Asia for more than a thousand years. Inside this

triangle smaller kingdoms, like that of Mitanni in northern Mesopotamia or that of the Amorites in central Syria, rose and fell; some city-states, like Aleppo or the unplaced "mighty land of Isthara" attained a momentary or recurring local importance; but from before the first dynasty of Babylon till the fall of Troy (from 2600 B.C. at least, until 1200 B.C.) the Hittites remained the bulwark of Europe in Asia. During all this time no migrations of peoples westward, like that of the Turks in modern history, passed through the Hittite lands. Had this barrier yielded the history of Europe might have been quite different. Yet that was the lighter half of their unconscious task. The warm plains of the south might perhaps produce no physical energy that could surmount the rigours of the Taurus mountains, but beyond the upper Euphrates the kindred rival power in Armenia—then called Harri and later Urartu—was a constant menace

on the eastern horizon; while from later historical events, such as the siege of Troy and the coming of the Phrygians from Thrace over the Hellespont, or of the Cimmerians followed by the Scythians from southern Russia by way of the Caucasus, it may reasonably be inferred that in those directions also the pressure of would-be migrants from south-eastern Europe into Asia, though varying in intensity from one century to another, was ever present.





WALLS OF ALEPPO GIRDLING AN ANCIENT HITTITE SETTLEMENT

Ancient sites have a way of reasserting their importance through history; the circumstances that first induced men to dwell on them may operate again and again in different ways. So with Aleppo: the history of the modern Syrian town, on which caravans still converge and whose citadel is girt with frowning medieval walls, goes far back in time—the very mound, or “tell,” on which the citadel stands marks the site of one of the most powerful centres of the Hittite confederacy, in its prime during the Hyksos invasion of Egypt. It was the Prince of Aleppo it will be remembered (see page 186) who fared so ill at the Battle of Kadesh.

Photo by Prof. Garstang

It was, in fact, from this direction that the final storm burst; the Assyrians only took advantage of the “fait accompli.”

The great disaster occurred at the dawn of the Iron Age, about 1200 B.C. When the Homeric bards sang the siege of Troy, which fell within a few years of that date, the place of the Hittites in popular legend was already being taken by the Phrygians, who had joined, it would appear, in the destruction of their power. Later Assyrian records speak of the inroads of “Muski,” not Hittites, in Asia Minor at about this time. The repercussion of this tragedy, which shook the foundations of society in the Greek lands and islands also, was felt in distant Egypt. The Pharaoh of that age (Rameses III.), describing the irruption of Philistines and kindred tribes into Syria, tells how all the north was disturbed, how new invaders carried all before them, advancing like a flame, leaving the Hittite lands and northern Syria desolated in their trail. Whether the Philistines, whose heroes are Homeric in every aspect, were among the original invaders from the north, or whether, like Odysseus and others of the attacking hosts at Troy, they were driven by this new invasion or by lust of adventure far

from their homes, is not a question of immediate concern. What is clear from the independent records of three different countries is that an intensive migration of powerful European peoples poured into Asia Minor and blotted out the memory of the Hittite power that had bound its heterogeneous races together for 1,500 years. Thereafter the Hittites appear in the records of Assyria and in the Bible as a Syrian confederacy; for, in fact, their centre of power was transferred to Carchemish, and for some centuries the northern states of Syria that had long been used to Hittite administration, if not largely peopled by Hittite stock, maintained the Hittite military, political and social traditions, though hemmed around by foes and gradually crushed out of separate existence by the surrounding pressure.

With the fall of the Hittites Asia Minor became inevitably the scene of a long struggle between East and West. First Assyria, then Persia almost passed its portals; the pressure was westward until in turn arrested and turned back by Alexander and the organization of the Roman Empire. And though the classical writers tell us much that is now of interest in the story of the Hittites, there descended over the memory of their once great



ENTRANCE TO THE PALACE WHERE THE HITTITE LORDS OF SAKJE-GEUZI DWELT

More comprehensive view of the palace gate at Sakje-Geuzi—the lion in the previous page may here be identified in the middle distance below the native workmen. A similar lion flanks the nearer side of the gate, together with other sculptures, among which may be recognized a representation of the sacred tree. In the centre is the pedestal of a column supported in the Hittite manner by figures, in this case sphinxes reflecting Egyptian influence. A flight of steps once led up to the gate. On the left-hand edge of the excavation may be seen fragments of broken pottery; these, together with the general character of the sculpture, indicate that the palace is to be assigned to the late Hittite, or "Carobemish," period.

Photo by Prof. Gannaway

distinguished Frenchmen took up the practical investigations that were needed, and M. Maspero in his "Struggle of Nations" gave full justice to what could then be gleaned or inferred of the Hittite power. Some few British scholars, notably Professor Ramsay and Dr. Hogarth, pursued the topographical exploration of Asia Minor; but at the beginning of this century the word Hittite was spoken half apologetically and written between inverted commas.

The Institute of Archæology of the University of Liverpool then despatched three successive expeditions into Asia Minor to investigate Hittite origins. After the first of these it was decided to examine more closely the site of Pteria, identified with the conspicuous and mighty ruins crowning the hill above the Turkish village called Boghaz-Keui within the circuit of the Halys river. The second expedition was equipped accordingly in 1907, under the direction of the writer of this article, but on arriving at Constantinople found itself balked by diplomatic intervention. Proceeding none the less to the site, the party was enabled to take part in the progress of the work by courtesy of the late Dr. Winckler who had charge of the excavations for the German society that had secured the concession. There and during these days there came to light in a series of buried chambers in a palace-temple the lost archives of the Hittite empire.

These archives are written on tablets of clay baked after inscription. Some are large, 2 feet in height; others are much smaller and some are mere letters similar to those of Tell-el-Amarna. They were found by thousands, buried in the ruins and débris, as the photograph shows. Many had been clearly grouped together in separate "pigeon-holes"; the writer dug out dozens with a pocket-knife. How little even then could it be realized that one of the greatest archæological discoveries had been made. It has required many years of patient research and the creation of a whole new school of Hittite studies, in which are some of the most notable



LION GATE AT BOGHAZ-KEUI

The capital of the Hittite confederacy before troublous times shifted the centre of power was Hattusas, better known by the Greek name Pteria, or as Boghaz-Keui the modern village. The magnificent lion gate on the acropolis, dating approximately from 1300 B.C., has been called the most realistic work of such antiquity yet found.

Photo by Prof. Garatang

German scholars, with the distant collaboration of some few in England, France and America, to copy, edit and expound less than one hundred of these new historical documents. The first results are momentous; and though the work may be said to have barely commenced, the historical information already covers an additional period of a thousand years. The script employed in these writings is uniformly cuneiform—that of the Semitic states of Babylonia and Assyria. Some of the texts are in a



DIGGING UP LOST PAGES OF HISTORY: EXCAVATIONS AT BOGHHAZ-KEUI

The history of the Hittite peoples extends far beyond the foundation of Boghaz-Keui, later to become the capital of their confederacy; as early as 2800 B.C. they are mentioned in contemporary records, although the name Hatti appears to have then referred to one tribe only. But it was not until Hattusil I. started his victorious career and (it seems) founded Hattusa, or Boghaz-Keui, that the Hittites became a world power, as we might say; this was in about 1700 B.C. The photograph shows the excavations conducted on the site of the palace temple (built c. 1300 B.C.), with the modern village just beyond; in the foreground, in front of the small bell-tent, may be seen the trench wherein were discovered the first tablets of the extensive Hittite records. An absorbing photograph of the tablets themselves, taken at the time of their discovery, appears in page 841.

Photo by Prof. Garstang



SCULPTURES AND SPHINX GATE EXCAVATED AT EYUK

Excavations at Eyuk have revealed a structure closely resembling the lion gate on the acropolis of Boghaz-Keui ; but one striking difference is the substitution of sphinxes for lions at the gateway. This photograph shows the left-hand wall ; the gate itself is recessed, and one of the sphinxes may be seen on the right. As for the sculptures, at the angle where the gateway recedes there is a bull (not shown here) symbolising virility ; then comes an altar with the priest-king and his queen ; then attendants with sacrifices ; and finally small figures with hammer, chisel and a ladder who probably represent the masons at work on the fortress.

From "The Land of the Hittites," by Prof. Garstang

Semitic language which is readily translated ; but the great bulk are in one or other of eight different Hittite languages or dialects, most of which were unknown. The clue to these was given by Professor Hrozný of Prague and translations are now possible enabling the texts to be read like Latin and Greek, albeit tentatively.

Notwithstanding all the difficulties of interpretation the general nature of the new documents is now apparent. They include treaties with foreign countries, including Egypt, Mitanni and the Amorites, treaties of alliance or confederacy with states within the Empire generally prefaced with an historical narrative, royal decrees and speeches, summaries of campaigns and diplomatic correspondence with foreign powers, including both Egypt and Babylon, as well as numerous documents of more local interest, wills and testaments, inventories and registers of property, patents of nobility, prayers, oracles and soothsayers' formulae, descriptions of ritual and festivals, military regulations both administrative and technical including detailed instructions about the construction of camps, the height of ramparts, the depth of ditches and the length

of palisades, and guard duty on the frontiers or in fortresses ; lastly, catalogues of books indexed by the names of the authors. The mere recital of this list indicates clearly the stage of civilization to which the Hittites had attained, and demands for their history a place in the school-books of our day.

Hittite history begins, so far as our present knowledge goes, with the remote age of the great Sargon of Akkad or Agade (estimated at about 2800 B.C.) who ruled in lower Mesopotamia seven centuries before Babylon became the capital of that area. Assyria was not yet born, and even old Egypt was under the rule of an early dynasty of pyramid-building kings. At this distance of time Hittite archives are still scanty, and the central Hittite state (called Hatti) appears only a generation later as one of a group that rebelled against Mesopotamian authority. The King of Hatti at that date (c. 2750 B.C.), the first on record, was called Pamba, but he was not called Great King. It is indeed to be inferred from these earliest texts that the Hittite states were not yet welded together, and that the tribe of Hatti had not yet attained the predominant

place it subsequently held. Indeed the capital of Hatti at Boghaz Keui called Hattusas appears to have been rivalled if not surpassed in importance by another northern centre called Kus-sara. This early name may be recognised in its later form Gaziura by which it was known also in classical times. The geographer Strabo tells us that it was the ancient seat of kings but already in ruins before his day. The city crowns a defensible hill in a picturesque position in the valley of the river Iris in Pontus.

The internal struggle for ascendancy between the two rival houses seems to have endured more or less for several centuries but that did not prevent the consolidation of the Hittite kingdom and the gradual expansion of its frontiers. From the central plateau of Asia Minor they gradually extended their dominion until early on in the second millennium B.C., the seas became their boundary," and the southern coastlands that

formed the separate kingdom of Arzawa as well as the states bordering on the Euphrates were brought within their sway. Shortly afterwards Hattusil I (to judge from his name) fixed the capital at Hattusas, at any rate in the reign of his grandson Mursil I the centre of Hittite power was permanently established. This same king looms as one of the great conquerors of antiquity leading the Hittite forces to victory not only into Syria, where Aleppo was taken, but as far as Babylon which was captured and sacked.

The Babylonian and Hittite annals confirm one another in this record. The Hittites left in Babylon traces of their presence which have been recovered in modern times, and the statues of Babylonian deities which they carried off were restored a century later by the exploits of a Kassite king established in Babylon. This bid for empire in western Asia occurred about the same time as the overthrow of the Egyptian monarchy (in



STAUNCH MASONRY OF BOGHAZ KEUI, PALACE WALLS

Study of the Hittite remains in Asia Minor takes us back to an antiquity far beyond that of Carthage in its heyday, which represented a new seat of power on the banks of Euphrates after the old confederacy had been smitten and dispersed by peoples from the north. And nothing could emphasize this antiquity better than the cyclopean masonry of the palace at Boghaz Keui, standing on the edge of a steep ravine the great bonded and interlocking blocks are still secure after more than 3,000 years.

Phot. by Prof. Garstang



NATURAL ROCKY SHRINE OF THE PRIMEVAL HITTITE GODDESS OF EARTH

At a distance of about two miles from Boghaz Keui there is a natural recess in an irregular outcrop of rock. The spot is called in the Turkish tongue Irzily Kaya which means simply Inscribed Rock. In the days when the Hittite empire flourished advancing was taken of this recess to form a sanctuary of the great mother goddess Ma prototype of the Graeco Asiatic Cybele. Little attempt was made to alter the natural contours of the rock but the interior was adorned with bands of symbolic sculpture.

the 18th century B.C.) by Asiatic invaders called the Hyksos. During this period though the records are not clear it is apparent that the Syrian state of Aleppo became ascendant. Whether this new development indicates a transference of the Hittite power or an influx of new peoples is a question not yet answered.

About the year 1469 B.C. a hundred years after the re-establishment of the Egyptian monarchy when in fact Thothmes III was seeking to expand the Egyptian Empire or at any rate to recover his frontier in Syria, the Hittites are first mentioned in the Egyptian records. This was clearly not the first incursion of the Hittites into Syria we know from the Bible that Hittites were accepted



WAR GOD AND HIS PRIESTS IN THE SHRINE OF MA

Part of the band of sculpture adorning the open air sanctuary of the Hittite mother goddess. Among the rites celebrated in this shrine was the divine marriage of Ma with Ischub the warrior god, he is represented in various guises on the rocky walls and during the ceremony as part of the ritual his image was borne to the shrine on the shoulders of four priests.

Photos by Iruf Garstaag



NUPTIALS OF THE DIVINE PAIR, WHEREBY THE EARTH MIGHT YIELD HER FRUITS

Exact interpretation of all the numerous figures decorating Iasli Kaya is impossible; but interest centres on the group of the end wall, and the general meaning of these can almost certainly be determined. On the left, borne on the backs of priests, is the national god of the Hittites, Lord of the Sun, of War, of Fertility, called Sutekh or Teshub or Sandes in various places; in the centre, standing on lions, are the Mother Goddess (Ma, Cybele, Ishtar) and her son, prototype of Attis and Tammuz. The scene is the divine marriage of the main pair, symbolising the yearly fertilisation of the earth. Two minor goddesses on an eagle attend Ma

Photo by Liverpool University Institute of Archaeology

members of the communities of Palestine as early as the age of the Patriarchs; and their own records make allusion to Damascus at that early period. Their early penetration into Palestine may be traced in other ways. Now, however, they enter the political arena of western Asia in the full light of history: their own records are continuous from this time till the end, while from this date for two hundred years the references to the Hittites in Egyptian sources are of increasing frequency and interest. Both powers in fact were feeling their way to the possession of Syria, and it is to be conjectured from this simultaneous advance on both hands that the power of the Amorite buffer state, which at one time attained a notable expansion, was now weakening. The events that followed fill a fascinating page of history.

There may be traced hereafter the ebb and flow of conquest and influence to the north or to the south as national leaders arose on either hand to seize the opportunity of the moment, stimulated afresh in each generation by the deeds of their predecessors. Around the date 1375 B.C., when the Hittite imperial spirit was at its height and Egypt was weak, torn by internal dissensions of religious origin, the documents of both countries illuminate the international situation in a manner without parallel. The letters found at Tell-el-Amarna in Egypt were long the chief source of our knowledge of these times; they are amplified now by the Hittite archives of the period, some of which allude from the Hittite standpoint to incidents and situations already familiar from the reports sent by the Pharaohs' representatives

and vassals in central Syria. This tripartite correspondence as seen to us now is full of human interest and even pathos. For the same chieftains who write to the Pharaoh, making their obeisance as they quaintly say "seven and seven times," while protesting their loyalty and devotion or skilfully transferring discreditable rumours to their neighbours are found to have written at the same time to the Great Hittite King offering service or suggesting alliance in some adventure. They are in fact convicted now, in the court of time, of their duplicity, and their own letters are produced in evidence against them. These Semitic chieftains, then as now quick to read the signs of the times, saw in the lack of support given even to loyal vassals the Pharaoh's increasing indifference, interpreted as helplessness, and so secretly prepared for the coming crisis by overtures with the advancing Hittite. But the inevitable clash of arms was still delayed chiefly by the continued lassitude of Egypt, for nearly a hundred years. Even the Hittites, though at the height of their power, seem to have been too

busied with great events nearer home to attempt to win a permanent military footing on the Egyptian frontier in Palestine.

Meanwhile in the north the Hittites, under a dominant line of warrior kings, had been busy with home affairs and the strengthening of their empire. The Great King was called on to cross the Euphrates to quell risings among the turbulent tribes of Armenia, and eventually descended to northern Mesopotamia to punish the instigator of these rebellions. He added to the empire the whole of the realm of Mitanni, which reached from the Euphrates to the Tigris. The annals of these years are complete, and one may follow the exploits and incidents of these campaigns year by year. King Mursil III in particular, who mounted the throne about 1330 B.C., devoted his first ten years to a series of campaigns, for rebellion had broken out afresh owing to his youth. Our first task in the understanding of these records has been the identification of the place-names which, as written in Hittite, are largely unfamiliar. This problem in itself has now become a special



HITTITE TYPES AS THEY APPEARED TO EGYPTIAN EYES

Who precisely were the Hittites and whence did they come? We have seen that they were a confederacy and that they took their name from a comparatively small tribe the *Hiatti*, but while there was probably a nucleus of people racially akin to these *Hiatti*, it is probable that the confederacy as a whole was made up of many diverse nationalities. Egypt gives us several portraits of them, reliefs of the Battle of Kadesh in the temple of Ramesses II at Abydos show some of an illustrious type.

Photo by Liverpool University Institute of Archaeology



HITTITE ALLIES AT THE BATTLE OF KADESH

Other of the Hittite forces at Kadesh as portrayed by the Egyptians present such a clean cut Greco appearance that they have been thought to be some of the proto Greek invaders of Asia Minor perhaps adventurers from around Troy. Details of their armour and equipment also tend to support the theory.

(1) by Liverpool University Institute of Archaeology

field of research and considerable progress has been made. As an example of the method and interest of this inquiry two names may be mentioned. The one is Yaruwanda in which Hittite form has buried the name of the historic Syrian city Arwad a name which survives to day. By this analogy the more formidable looking name Massukhanda may be recognised as the city of Massukh and identified with the famous city of Mazaka Caesarea, upon the plateau of Asia Minor. But the legendary founder of Mazaka was a traditional ancestor of the Cappadocian peoples named Mosokh and his name, so clearly Hittite in origin has already been recognised as the biblical Mesekh. So that apart from the Hittite question at all the interpretation of their records sheds new light upon biblical topography.

These identifications illustrate the method by which the Hittite records have been interpreted with the result that the campaigns

of Mursil may be followed in the map. He led the Hittite armies in successive years among the states bordering on the Euphrates which formed the eastern frontier of the Hittite homelands and soon we find him turning his attention to the southern coast lands of Asia Minor which he reduced again to his authority by a series of rapid blows planned and directed with the skill of an experienced general. All these southern lands, which had formerly been a single kingdom, he now divided into principalities, each under its separate king. We can follow him also in the north east, where crossing the Euphrates again he advanced against the states bordering on the upper Tigris. In northern Syria where Egyptian influence had prevailed till then, he concluded a series of treaties, for he was statesman as well as general and by this means he attached to

the Imperial cause under the terms of offensive and defensive alliances the powerful districts of Aleppo the city states upon the Orontes and the important kingdom of the Amorites in the Lebanon.

The Hittite empire had now attained its full extent dominating all the territories indicated



AMORITE AUXILIARIES OF A HITTITE ARMY

Yet other Hittites from the temple at Abydos, in this case shown as prisoners may be identified by comparing them with facial types still found persisting in parts of Syria to day they are manifested by the inhabitants of the Lebanon district and the Orontes valley—home of the Amorites who play such an important part in the biblical story.

Photo by Liverpool University Institute of Archaeology

upon our map. Its capital was at Boghaz-Keui as of old, where the wonderful ruins of its greatness may still be seen, and excavations have disclosed the remains of earlier ages. The circuit of the ramparts may be followed for a distance of four miles, crowning a hill-top, protected by great earthworks with battlemented walls, numerous towers and defended gateways. Sculptures which adorned the entrance give proof of settled times and prosperity. Within the circuit were palaces and temples; but the greatest building of this stage lay on lower ground to the north, which in the security of these times was also enclosed within the outer defences of the city.

With the empire thus constituted upon a military and almost feudal basis, the northern power dominated the situation, so that when Egypt under Rameses II. awoke to a sense of its former responsibilities in Syria, the inevitable conflict could not long be postponed. The Pharaoh moved northward with four divisions on Kadesh, the Amorite capital in central Syria. On his side the Hittite monarch mustered all his forces from the ends of his empire, even enrolling as mercenaries warriors from the Troad who had not previously fought in his wars. Indeed, the Egyptian records tell us that the Hittite "left no people in his road, their number was endless, nothing like it had ever been seen before, they covered the mountains and hills like grasshoppers." With this vast array the Hittite king moved southwards to occupy Kadesh and await the oncoming of the Pharaoh. It was a fateful moment in the history of the ancient world. The Pharaoh, forewarned, made adequate preparation: his best and most tried charioteers were led by him in person. The battle was fought under the walls of Kadesh in the year 1288 B.C.: it was full of incident, and at one stage the Pharaoh found himself in a position of great danger; but the issue (it will not be surprising to appreciate in these days) was a disaster for both combatants. The Hittite armies melted away, and the Pharaoh retired to the calmer security of the Nile. Fifteen years later a treaty of peace was concluded



THE HITTITES AS THEY SAW THEMSELVES

There can scarcely be said to have been a Hittite "race": but the open-air sanctuary at Iasili Kaya near Boghaz-Keui furnishes us with contemporary portraits of the Hittites by themselves—presumably the genuine Hatti type, properly so called. The figures, in an inner recess, are celebrating a harvest dance; they bear sickles and wear the peculiar Hittite peaked hat. They seem, from religious indications, to have been once a mountain people.

Photo by Dr. R. Campbell Thompson

between Rameses and the Hittite King Hattusil III., who had meanwhile succeeded to the throne.

With these events the Hittite sun passed the zenith. The Assyrian in the east and European peoples in the north became an ever-increasing menace, and the sudden cessation of the Hittite records about 1200 B.C. tells plainly of the end of the Hittite empire. It speaks well for the sagacity and foresight of the emperors of previous generations that they had prepared the way for the transference of the Hittite seat of power to Carchemish by appointing princes of the royal house to rule that centre, so that the Hittite tradition was maintained without break. But the history of the Hittites in Syria from 1200 B.C. until the fall of Carchemish and the subsequent fall of Marash towards the end of the eighth century B.C. was that of local kings, leagued together, indeed, for offensive and defensive purposes as of old, but without the imperial greatness and the glory of the old-world rulers of Asia Minor. Nevertheless the city of Carchemish was one of the wonders of the age, and in the valley which lies to the west, separated by the Amanus range from the sea, there flourished cities with royal palaces of Hittite character, though at various times under Assyrian domination. Excavation has disclosed these fortifications and palaces, and we illustrate in page 830 some of the vivid sculptures of a palace-portico of this period.



HITTITE AMAZON AT BOGHAZ KEUI

On a gateway at Boghaz Keui was discovered this startling figure thought at first to be a Hittite king it has since been recognized by many in view of the shape of the thighs and prominence of the breasts to represent a female warrior and may therefore furnish a basis in fact for the Greek legends of the Amazons—perhaps a caste of warrior priestesses

It is not yet possible to estimate the full measure of influence which the Hittite domination in Asia Minor imparted to the world that surrounded it both in Europe and in Asia. It is certain, however, that several of the Greek gods and various elements of Greek worship are to be recognized in Hittite prototypes. One of the most interesting features of the Hittite religion was the institution of the divine marriage. The original inhabitants of the land seem to have worshipped the elemental and physical forces of nature, such as mountains, rivers, the sun and so forth, which they personified in the conception of a great mother goddess. The Hittite leaders who established their domination by force of arms, brought with them on the other hand the idea of an all-powerful god armed like themselves the vigorous ruler of storms who grasped the lightning flashes in his hand—the

typical soldier's god. The assimilation of old and new brought about the union of the two in a divine institution a ceremony doubtless repeated annually as a spring festival. The cult of the goddess survived even after the fall of the empire. In her time honoured sanctuary at Arinna she had been worshipped not only as the mother of earth and fertility, the sun-goddess, but as the guardian of oaths and treaties the protector of fugitives, and as the goddess of war. The Romans found her shrine enduring at Comana and so striking and appealing to them was the perpetuation of her cult that they identified the goddess with Bellona, their own goddess of war and called her by that name.

In northern Syria also the Hittite worship of the mated deities survived long after the disappearance of the Hittites in the cult of the Syrian goddess at Hierapolis. The same dual worship



ROCK-CARVED GOD AND KING AT IVRIZ

At Ivris beneath the Taurus Mountains is a vigorous rendering of the god of agriculture, 14 feet high, with a king whose name is perhaps to be read "Aymnyas." The king, hands raised in adoration stands richly robed in a garment among whose decorations may be recognized the symbol of the swastika.

Photos from Meyer's *Reich und Kultur der Hettiter*

is found to have been preserved at Doliche, but in this case it was the god who was ascendant. Roman soldiers, enrolled from this village at the foot of Taurus to serve in Britain on the Roman Wall and other garrisons of the north, brought with them this worship which took root once more under new conditions, and that god became widely popular among the Roman soldiery by the name of Jupiter of Doliche. We publish one illustration of this deity; even the uninitiated can recognize in his lightning emblems and other attributes the successor of the old-world Teshub of the Hittites, destined thus to live again in Britain long after the Hittite empire had perished. This is only one example of hundreds which will surely come to light to illustrate the deep-rooted nature of the civilization implanted by the Hittites in Asia Minor and its influence upon that of Europe. Our whole knowledge of these factors in our life is derived from the results of one single excavation. What further Wonders of the Past lie buried awaiting the excavator's spade?



TESHUB AND JUPITER OF DOLICHE

An instructive example of the persistence of religious ideas is afforded by the comparison of these two reliefs. That on the left is a Hittite carving of the sky-god Teshub discovered at Babylon—probably the spoil of war and certainly dating from very early times; above is part of a votive tablet discovered near Frankfort in Germany. The attributes of the two gods show an obvious connexion—how does it come about? Roman soldiery, finding a god of Hittite characteristics at Doliche, adopted him with enthusiasm, rechristened him Jupiter, and spread his worship over the whole Roman Empire.

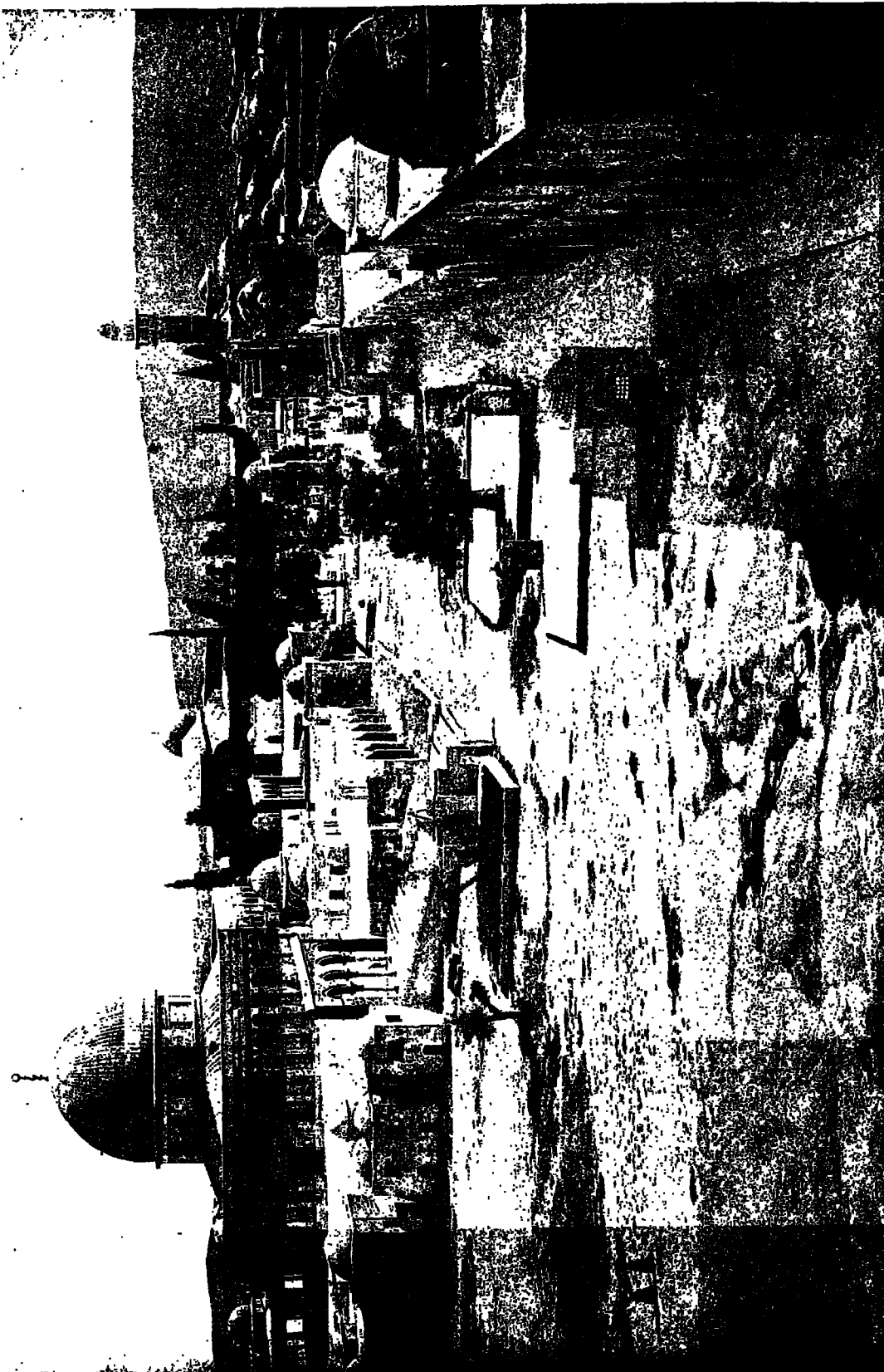
Photos from Meyer's "Reich und Kultur der Hittiter"



HITTITE ARCHIVES PHOTOGRAPHED AT THE MOMENT OF DISCOVERY

One of the most wonderful discoveries in the history of archaeology was that of the Hittite archives at Boghaz-Kem, they cover a bewildering multiplicity of subjects, from diplomatic correspondence to military treaties, and even include well-indexed catalogues of books. This photograph shows the baked clay tablets projecting from the side of the trench; the trench itself may be seen in page 832.

Photo by Prof. Garstang



A MOSQUE NOW STANDS WHERE A HOUSE OF JEHOVAH ROSE IN MAJESTY FOR A THOUSAND YEARS

Various views of the Haram el Sherif, the age-old site of Jehovah's Sanctuaries at Jerusalem, appear in pages 567 to 584; the photograph in page 574 more especially gives an idea of the dominating position of Mount Moriah, the Temple height. Here is an illustration of its summit to-day, flattened by centuries of disaster and detrition to a level platform, with all the successive temples of Jew, Roman, and Byzantine swept away and replaced by a comparatively small but exquisite Moslem mosque. The Kubbet el Sakhra it is called, "The Dome of the Rock," because it shelters that rock sacred to Jews, Christians and Mahomedans alike upon which the Altar of Burnt Offering was reared in the threshing floor of Araunah the Jebusite, bought by David for fifty shekels of silver. This view is from the north-west corner—the farthest corner in the model in page 844.

Temples of the Gods. XVIII.

The Temples at Jerusalem

By Reuben Levy

Lecturer in Persian in the University of Cambridge

I DO not think that any of the readers of WONDERS OF THE PAST will cavil at this chapter being placed under the sectional heading of "Temples of the Gods" it is a procedure that has been adopted before in the case of edifices which, while not strictly temples, were religious in character, and in this instance it is needless to say that the classification has no significance beyond mere convenience of grouping. For the rest, several views of the present site of the Sanctuary are given in Prof Garstang's chapter on "Jerusalem under Herod the Great," and in particular it would be advisable to consult the fine reconstruction of Herod's city in pages 368 and 369—EDITOR.

1. Solomon's Temple

THE city of Jerusalem has from its foundation lain on two narrow hills running more or less north and south. The more eastern of these two hills which without doubt was the original hill of Zion, rises to a height of 2,400 feet above sea level and has on the east of it the valley of the Kidron and on the west the narrow "wadi" that Josephus called the Tyropoeon or "Cheese maker's" valley. Upon it to-day is built the Haram el Sherif, "The Noble Sanctuary," sacred to all Moslems. There is a very ancient and reliable tradition that on this site lay the Temple of Herod which in its turn contained the site of Solomon's Temple. About the middle of the Haram el Sherif is the building known as the Mosque of Omar, more correctly the "Dome of the Rock," a name which it takes from a sacred rock lying under it. This outcrop of stone is roughly 60 feet long by 45 feet broad, and varies in height from between 4½ feet to nearly 7 feet. It is practically certain that this rock was the threshing floor of Araunah upon which,

we are told in the Second Book of Samuel, David raised an altar and King Solomon later placed the permanent altar of his temple.

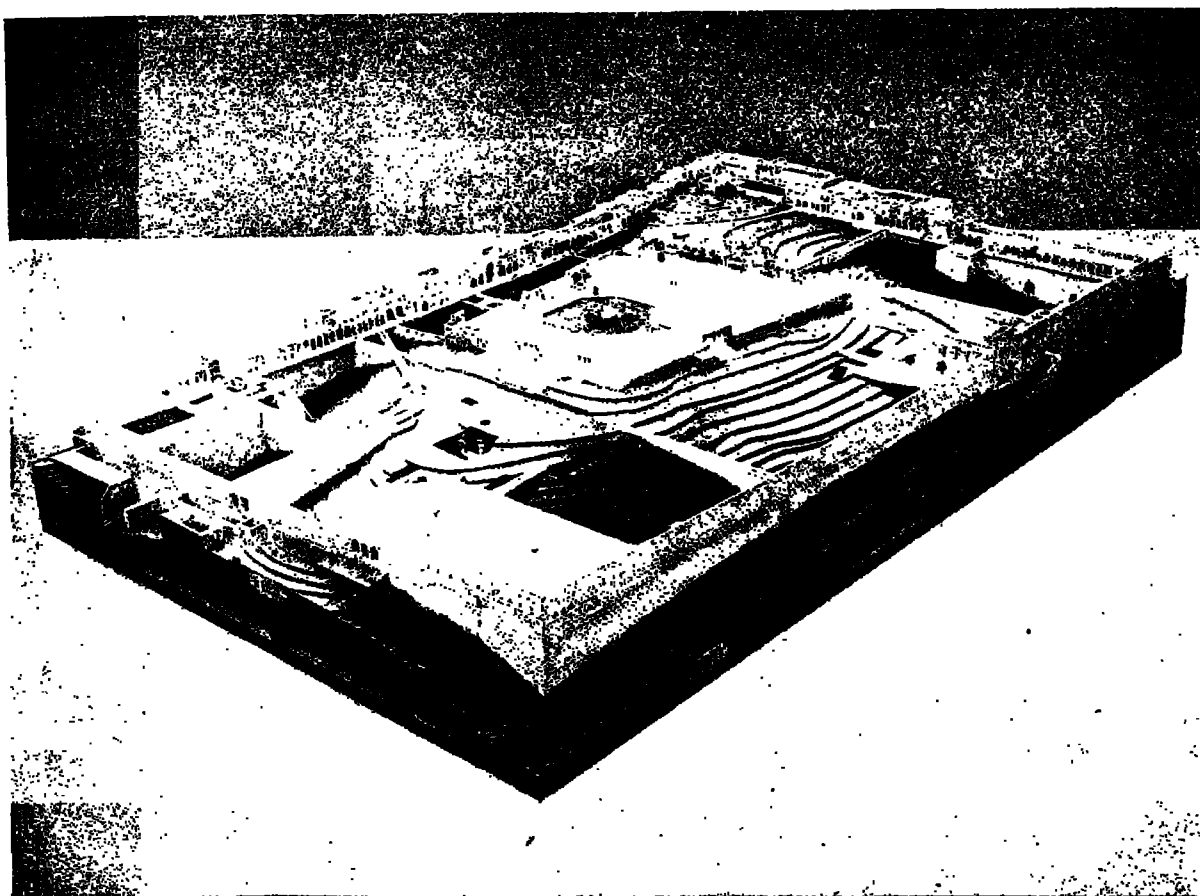
Chapter 11 of the First Book of Kings says that in the fourth year of his reign i.e. probably

in 967 B.C., Solomon began to build the house of the Lord. It was by no means the first place of worship that Israel had had but it was the first permanent structure. The materials for it were collected by David but Solomon also sent out thousands of men to hew down trees in the forest of Lebanon and to quarry great stones. The trees, after being carried to the sea shore were made into rafts and floated to the port of Jerusalem. Some of the cyclopean stones (one of them being 23 feet long) that are still to be seen in the boundary wall of the Haram more than probably formed part of Solomon's materials. The configuration of the ground together with the description of the grouping of the royal palace and other buildings, makes it practically certain that the temple lay to the west of the "rock," where there was sufficient room for so comparatively small



LAMPS THAT WERE EVER KEPT ALIGHT

The seven branched candlestick of pure gold, which maintained its traditional form throughout the history of the temples at Jerusalem and was one of the most sacred objects in them—seven was the "perfect number"—is lost to us for ever but a representation of it appears among the spoils of Jerusalem on the Arch of Titus in Rome illustrated in page 516. Here is an enlarged reproduction showing the details of its ornament



HOW MAN AND TIME HAVE ALTERED THE CONTOURS OF THE TEMPLE HILL

Flat though the summit of Mount Moriah is to-day, it was not always so; extensive substructures still exist beneath the surface, as we have seen in page 373, and there is reason to believe that recourse was had to something of the kind from the earliest days. Moreover, the ground level has been raised many feet by the accumulated débris of ages. This model, showing the original contours of the hill in relation to the buildings round it, will help in realizing the problems of the Temple builders.

From a model by Dr. Schick

a building. The incomplete account of the Temple given in the Book of Kings may be supplemented by Ezekiel's vision of the ideal temple which was almost certainly in part suggested by the real building at Jerusalem.

The Temple, then, consisted of an inner core, or main building, on three sides of which was attached another subsidiary structure. The main building was rectangular and faced east and west. In length it was about 100 feet, in breadth about 33 feet and in height 50 feet. These must be taken to be the interior dimensions of the edifice. From Ezekiel it is gathered that the walls were 6 cubits or 10 feet in thickness at the base, so that the main building must have been of very solid and heavy construction, after the Phoenician style where the main architectural principle was that of the hewn rock, as might have been expected from the Tyrian builders whom Solomon engaged to help in the work. The stones used in the building were of the white limestone that abounds in the

country and were ready dressed at the quarries before being sent down to Jerusalem.

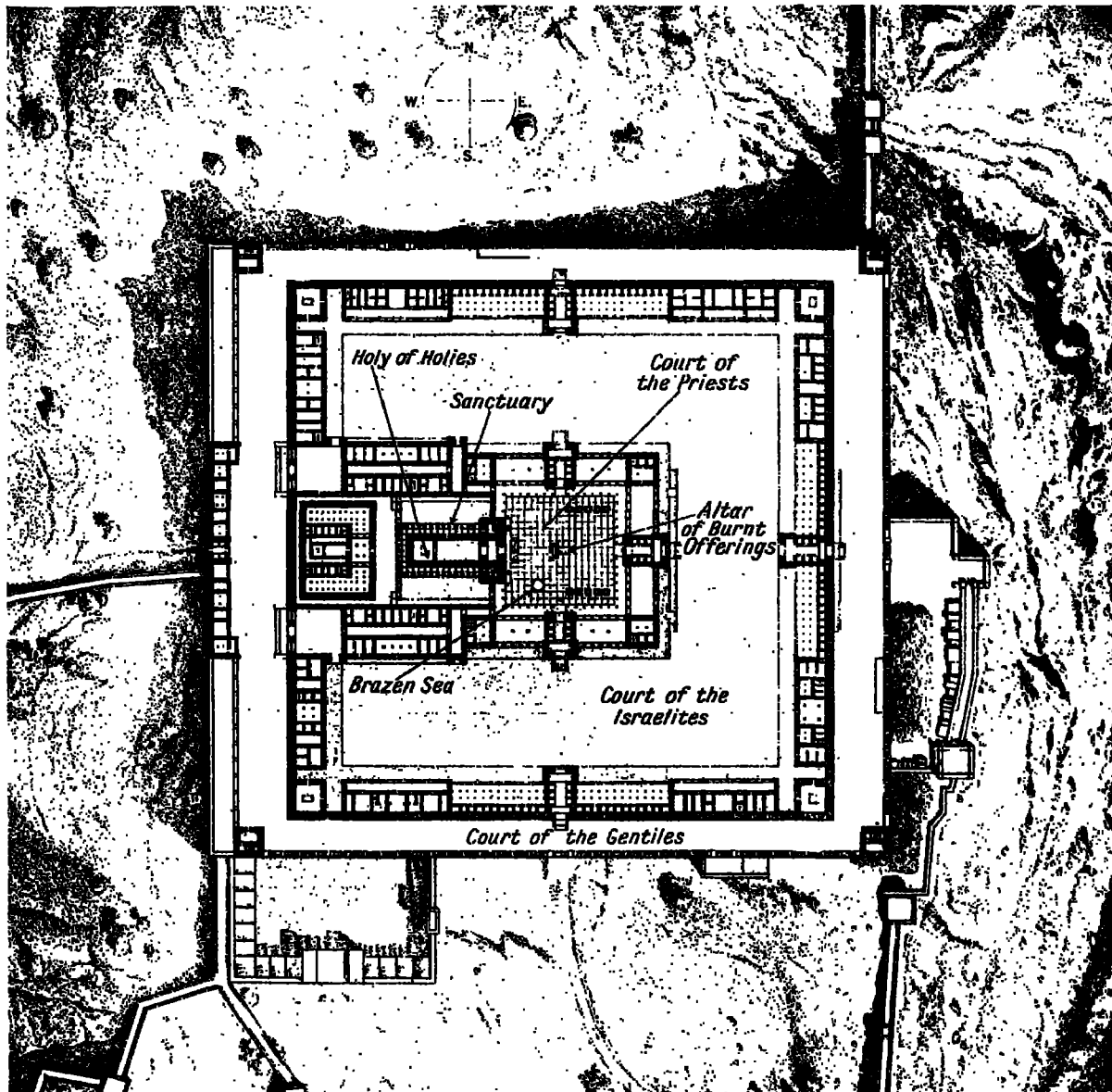
For the roof of the building joists of cedar were laid across the longer walls. On these were put planks of the same wood which, in their turn, were covered by a layer of stones, or more probably of clay, as is the custom in all buildings in the Middle East to-day. To clear the surrounding structures, the windows must have been placed high up in the walls. Their exact construction is doubtful, but they appear to have been long apertures cut through the walls, tapering towards the outside and there covered by fixed lattice work.

Upon the front of the "House" was built a porch of the same width as the main building and about 17 feet deep. Its height is not mentioned except in Chronicles which, by a possible textual error, makes it 120 cubits; this would make the porch a high tower. A number of steps led up to it, being flanked by two imposing columns of hollow bronze, Jachin and Boaz, each 6 feet in

diameter and about 38 feet in height, including an 8 foot carved capital of intricate workmanship.

The subsidiary structure on the sides and back of the "House" reached rather more than half-way up the walls. It was three storeys high, each storey measuring about 8 feet in height. Here the priests and Temple officers had their quarters which must have been quite small cells; those on the bottom storey being only about 8 feet, those on the

second 10 feet, and those on the top storey nearly 12 feet wide. The gradual increase in width seems to have been achieved by having the outside of the "House" wall built in a series of three steps. Correspondingly, the inside of the external wall was built in similar stages. Beams fixed across these "steps" made the ceilings and floors of the respective storeys, thus obviating the necessity for piercing the Temple wall. The main doorway to the



SOLOMON'S TEMPLE AS MEASURED IN A PROPHET'S VISION

Far more detailed than the descriptions in Kings or Chronicles is the elaborate survey of the prophet Ezekiel, enabling indeed an accurate ground plan to be constructed; but this is avowedly of a vision temple, for Solomon's Temple was then destroyed and Ezekiel was in exile in Babylonia. How far may this vision be taken in evidence for Solomon's Temple? Latest opinions give it great value, for the prophet came of a priestly family and must have been intimately familiar with the old Temple; moreover, being an exile, he would be likely to be almost passionately conservative. We may take it, therefore, that Ezekiel's is an idealized version, based on fact and aided by a retentive memory.

After a plan by Ch. Chipiez

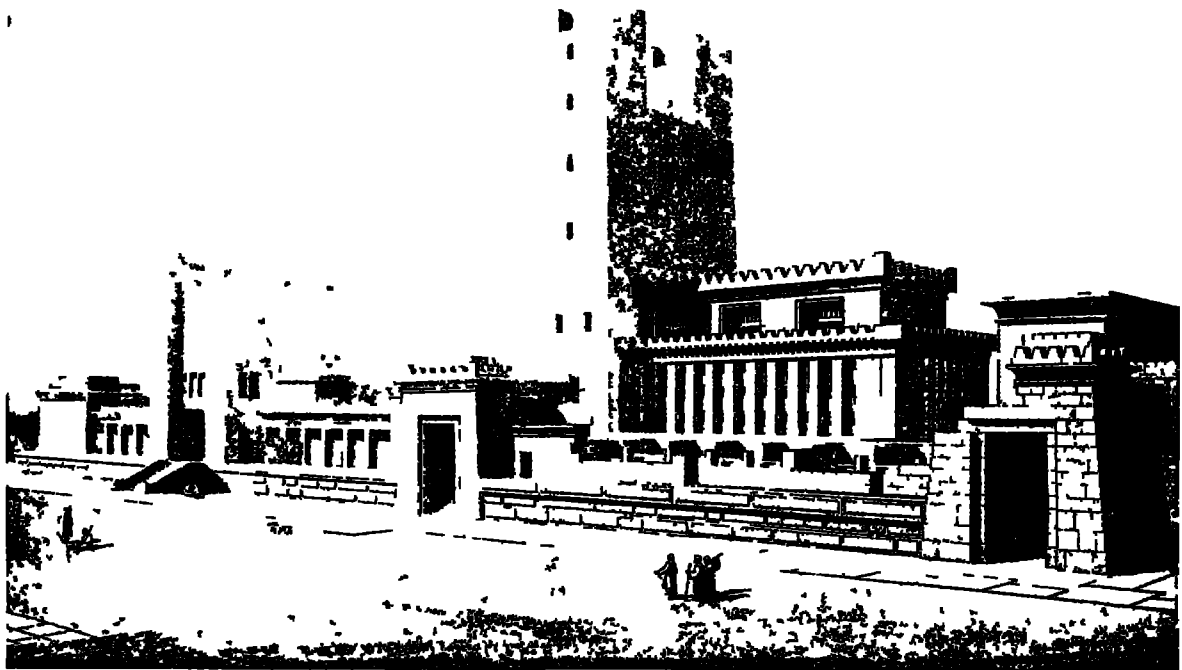
cells was on the south side of the building and communication between the different storeys was gained by means of spiral stairs, or perhaps by ladders and trapdoors

The inside of the 'House' was entirely panelled with cedar wood, while the floor was of planks of cypress. The innermost part of the building was partitioned off from the rest with cedar wood planks to form a cubical chamber with a side of 33½ feet, filling the whole width of the main building but only two thirds of its height. This chamber was the Holy of Holies, the inner shrine in which the Deity was said to dwell. The rest of the 'House' was called the Holy Place. Two colossal cherubim, winged figures of olive wood each over 16 feet in height with wings that later covered the "Ark of the Covenant," were placed inside the inner sanctuary. It is not known what form the Cherubim had, but doubtless they were composite figures like the winged bulls and lions made familiar by Babylonian and Assyrian sculptures. The text of the Book of Kings says that the Cherubim and the whole of the inside of the 'House' were overlaid with gold. From the parallel of the Shah of Persia who after a pilgrimage,

had the domes and minarets of the shrine at Kazimain (near Bagdad) covered with thin plates of beaten gold, it cannot be said that this is improbable, but on critical grounds it is felt that the description of the overlaying with gold is, in part, a late addition to the text. No doubt is, however, thrown on the existence of ten golden candlesticks that stood before the Holy of Holies, five on each side, in the Holy Place.

Before the porch of the Temple, at a distance of a few feet, stood the sacred rock and, probably upon it, a bronze altar of enormous dimensions. Between the altar and the steps of the Temple porch was the so-called "Brazen Sea," a mighty bronze bowl over 16 feet in diameter and 8 feet deep that rested upon the backs of twelve bronze oxen. Both within and without the building were other vessels and implements, of copper or bronze, in great numbers.

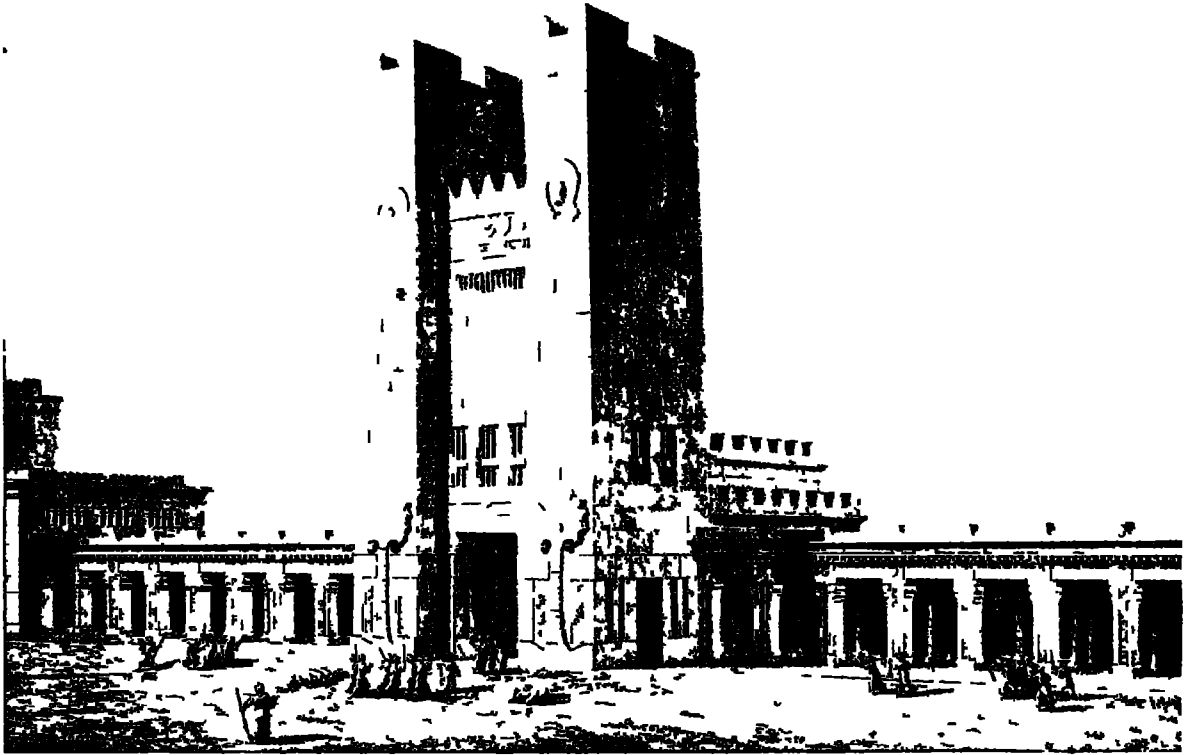
A court of unknown shape and dimensions surrounded the whole. It was doubtless paved with stones and we are told that it was enclosed by a wall made of three layers of hewn stones, and one of great beams of cedar wood probably standing upright in order to form a kind of palisade. It took Solomon seven arduous years to complete the



THE TEMPLE RESTORED ACCORDING TO EZEKIEL'S DREAM

In view of the considerations enumerated in the previous page, the French architect responsible for this reconstruction of the Temple from the north west corner of the Court of the Israelites has followed unreservedly Ezekiel's ground plan. Far more problematical however is the elevation, but all known precepts of Phoenician art have been carefully observed. The low building flanking the inner court on the north together with part of a gateway has been left unreconstructed in order to give a free view of the great Sanctuary in the centre, the vastness of whose porch is discussed in the opposite page.

After a reconstruction by Oh Chipman



VAST PYLON OF THE SOUTHERN GATE FROM THE COURT OF THE ISRAELITES

The most controversial feature of the Temple reconstructions in this and the opposite page is the introduction of mighty pylons at the gateways with height twice their breadth, the mightiest of all being the one forming the porch of the Sanctuary, 120 cubits or 200 feet high. Now this is in accord with 2 Chronicles iii 4 which has been impugned as a textual error, but it has the support of Josephus and it may be that it was an ideal never quite realized. In any case Phoenician Lombard architecture supports the existence of pylons of the same general type, whatever their size.

After a reconstruction by Oh Chajka

Temple and it remained the centre of Jewish national life for nearly five centuries, i.e. until 586 B.C. when Nebuchadrezzar, King of Babylon, burnt it to the ground with the rest of Jerusalem and carried off its treasures as booty.

2. Ezekiel's Temple

Among the exiles who were carried away to Babylon was the prophet Ezekiel who came of a priestly family and whose aim was to enhance the importance of Temple ritual and to ensure the exclusiveness of the priesthood. Among his prophecies is a vision of the ideal Temple in which the main characteristic is a striving after symmetry.

He sees a great plateau 500 cubits square (1 cubit equals about 20 inches), upon which is built the outer court surrounded by a wall 6 cubits high and 6 broad. Inside each of the north, south and east walls are built ten chambers for the use of priests and to serve as store-houses and in each of these walls is a huge arched gateway, 50 cubits long and 25 broad approached by steps.

In the centre of this court, and raised above it, stands an inner court, having three gates corresponding in size and relative position to those

of the outer court, with a distance of 100 cubits between each gate of the outer court and the corresponding inner gate. A flight of eight steps leads up to each gateway and attached to the outside of the gateways on the north and south are buildings for the use of the priests in charge of the Temple.

In the very centre of the inner court, which measures 100 cubits in length and breadth, stands the altar, a structure of four superimposed square platforms, diminishing in size, the lowest having a side of 18 cubits and the highest a side of 12 cubits.

To the west of the altar stands the "House," the main core to which all the rest leads up. It is on a higher level than the rest and is approached by steps. Its whole length is 100 cubits, a pavement 6 cubits wide surrounds it and its walls are 6 cubits thick. It is divided by walls into a porch 20 cubits wide by 12 deep, a Holy Place 20 cubits wide by 20 deep, and a Holy of Holies of the same dimensions, the latter approached by steps.

As in Solomon's Temple a supplementary structure in three storeys and containing 30 cells for priests is attached on three sides of the main building, the storeys increasing in width as they ascend. Behind the Temple, and against the west

wall, there appears to be another building of indefinite character but of exact rectangular shape, while all round the "House" a space is left clear of buildings to prevent the remotest contact with unholiness. Ezekiel's vision was never actually realized and no approach to his elaborate ideal was made until Herod's time.

3. The Second Temple

Half a century after the destruction of the first Temple, the Jews were allowed by Cyrus, the conqueror of Babylon, to return to Jerusalem and to carry with them the sacred vessels of which the Temple had been robbed by the Babylonian king. They were entrusted to the Jewish prince, Sheshbazzar, who in 536 B.C. began the work of rebuilding the ruined Temple by restoring the altar in its old position.

The work made slow progress owing to various interruptions and it was not until 516 B.C. that it was completed by Zerubbabel, after whom it is generally called. The country was poverty-stricken after nearly sixty years of neglect, so that the purchase of materials from abroad and the use of precious metal for its adornment had to be severely restricted. Timbers were mainly brought from the neighbouring hills, and with the stones that remained on the site the work of re-erection began.

Our information with regard to Zerubbabel's Temple is scanty. Leaving controversial points and improbabilities on one side, we may assume that it was not greater in its dimensions than that of Solomon. The Holy of Holies was empty, for the "Ark of the Covenant" and the gold-covered Cherubim were never brought back. In the other part of the Temple only one candlestick was placed, and in front of the Temple the great "Rock" bore an altar of hewn stones in place of the bronze altar of older days. Numerous subsidiary chambers are mentioned, but it is impossible to say whether these were attached to the main chamber or were scattered about the courts, of which there were two, an inner and an outer. The inner court was in theory reserved for the priests and the other for the numerous worshippers that flocked to the sacred building, but in practice the people seem to have penetrated also into the inner court. More than one gateway is mentioned, but the exact description of them is unknown, though their respective positions may be conjectured. During Pompey's siege of Jerusalem a bridge leading from the sacred hill across the Tyropoeon valley was destroyed, and it is likely that it had been constructed during the rebuilding of this Temple in order to provide the inhabitants of Jerusalem with an easy mode of access to their place of worship.

In later times the Temple seems to have been fortified, but that did not prevent its being plundered and desecrated by Antiochus Epiphanes in 168 B.C. This act gave the crowning impetus to the revolt of Judas Maccabeus, who on gaining the upper hand freshly adorned the Temple, set it in order and strengthened its defences by means of towers and high walls. These, however, were not entirely effective, for in later years they were razed to the ground by Antiochus Eupator, and though they were rebuilt by Jewish princes the Temple Hill was again stormed by Pompey and Crassus, who plundered the Temple of the stores of gold brought to it by worshippers.

4. Herod's Temple

In 40 B.C. Herod, a descendant of the Maccabees, was given the title of King of Judea by Antony and Octavius, though he was not recognised by the Jews. Three years later, in a campaign to assert his authority, he stormed Jerusalem and burnt down some of the Temple walls. In the eighteenth year of his reign (20-19 B.C.) he determined, possibly with some idea of pleasing his subjects, to rebuild the Temple in accordance with the spirit of the time and his own luxurious ideas. All secular edifices were to be pulled down on the Hill of Moriah, which was now to be covered entirely by the sacred building and its courts.

We have contemporary accounts of this Temple both in Josephus and Rabbinical works, from which we may gain an idea of the elaborate character of the work. Herod's first task was to increase the area available for his building. For this purpose he built mighty substructures on the south side, where the hill fell steeply away, and arranged the hill in a series of terraces with the actual Temple on the high plateau in the middle. He surrounded the whole rectangular area thus formed by a massive wall of colossal stones, the base of it being fairly low down the side of the hill and the enclosure being two stadia (roughly 400 yards) by one, within which circuit must be included the fortress of Antonia that stood at the north-west corner of the Temple.

Before beginning his reconstruction, Herod had to collect the materials for the Temple in order to reassure his subjects who believed that he might pull down the old Temple without the intention of building his new one. Further, in order to obviate any sacrilege, he appointed 1,000 priests who were to be taught the arts of masonry and carpentry and could undertake the work in the holy houses where services were continued, thus achieving the thought of identity of the new and old Temples that the people desired. The new building, however,



CAPITAL OF JACHIN OR ITS TWIN, BOAZ

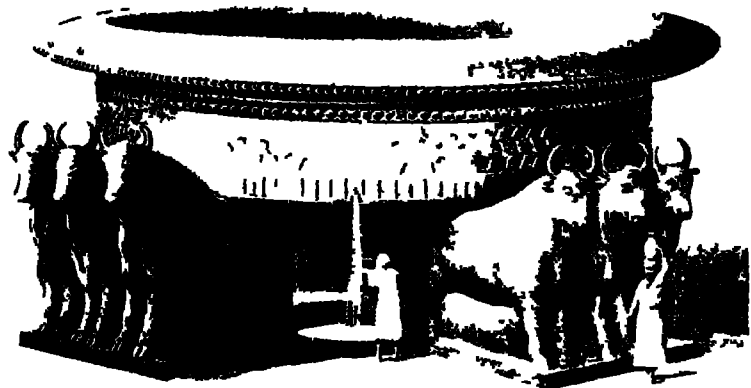
As regards the adornments of the Temple Solomon caused two pillars of brass Jachin and Boaz to be set up on either side of the porch of the Sanctuary. They are lovingly described in 1 Kings vii, 13 and following from which this reconstruction has been made according to Phœnician canons, for Hiram who cast them was an artificer from Tyre.

After a reconstruction by Ch. Chipiez

was very different from the old one, particularly in the elaborateness of its decorations and in the number and arrangement of the external courts. The old division of the main Temple into the Holy of Holies and the Holy Place was maintained, the two being separated by a "veil" or curtain. The old internal dimensions were also kept, but due proportion with the magnificence of the surrounding courts was achieved by making the walls extremely thick and 100 feet high. The walls also of the three-storeyed surrounding chambers attached to the "House" were of great thickness. Further, a great porch, wider than the rest of the building, was

added on the east side. To quote Josephus (speaking of the Temple proper) "In front its height and its breadth were equal, each being a hundred cubits though it was forty cubits narrower behind for on its front it had on each side what may be styled shoulders (wings) that passed twenty cubits farther." The whole was built of glittering white marble while the porch was covered with gold so that the eye of the worshipper must have been caught far off, as Josephus says it appeared "at a distance like a mountain covered with snow."

A worshipper coming from the city of Jerusalem on the western hill would cross the Tyropœon valley by a bridge—Zion Bridge—and would enter by a lofty gate into the outer court which was 600 feet square. It was paved with stone and had all around it wide covered colonnades supported on marble pillars over 40 feet high and pierced at intervals by gateways. On the south wall the colonnade was known as the Royal Porch and was formed by 162 colossal pillars of marble arranged in four rows of which the two middle rows were twice as high as the rest. This outer court, or Court of the Gentiles, was open to all but in the middle of it was another court, access to which was forbidden to Gentiles on pain of death. It stood on a raised platform 25 feet above the outer court and was reached by a series of fifteen steps, except on the west. Round the edge ran a low wall, with pillars at equal distances from each other, inscribed some with the Law of Affinity and some with notices forbidding entry to Gentiles, one of the latter notices being still extant. About 16 feet from this low wall was built another one rising to a height of 42 feet. This had four gates on each of the north and south sides and two gates, one within the other on the east side, there being no

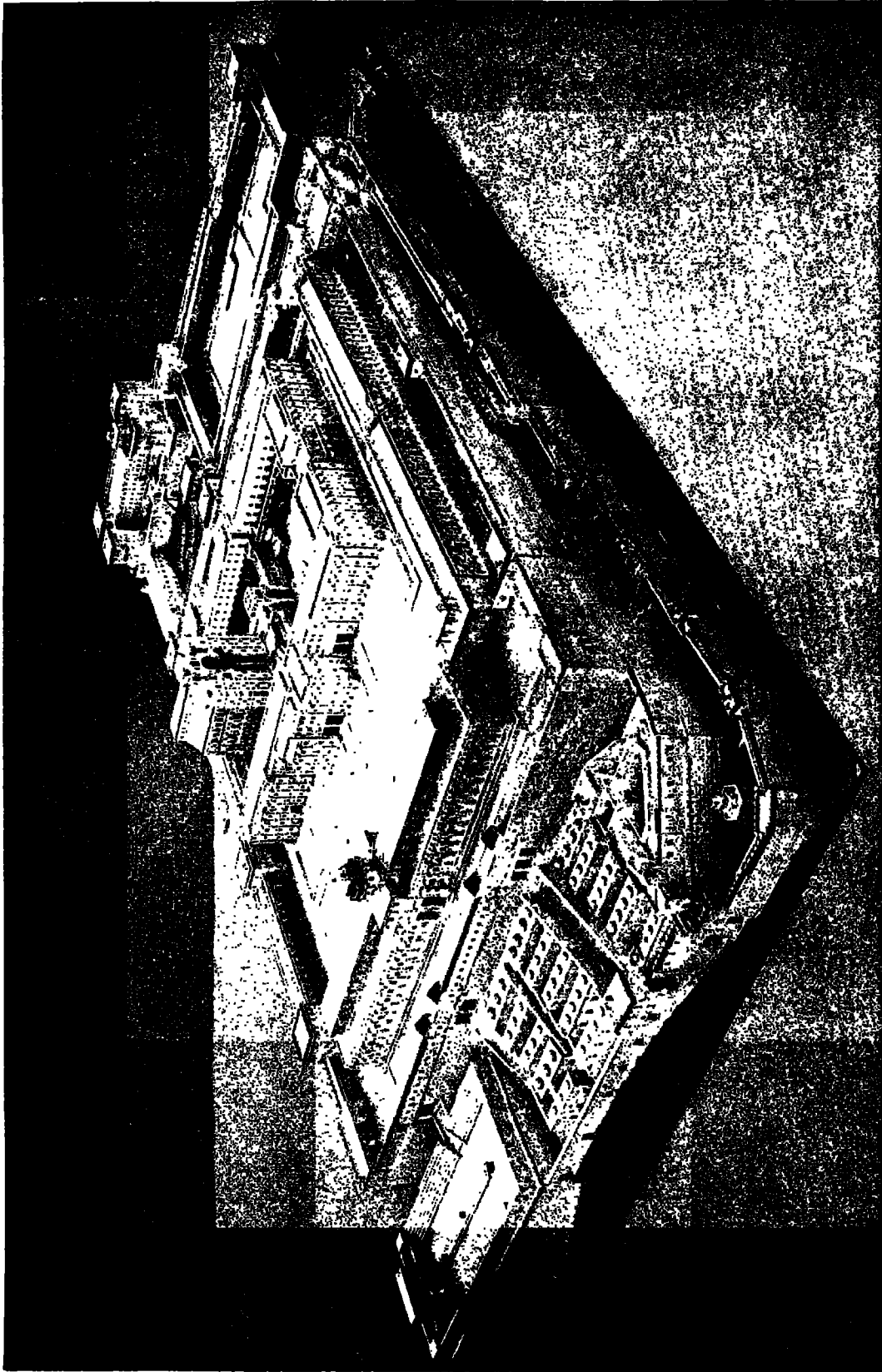


TRIUMPH OF PHOENICIAN CRAFT THE MOLTEN SEA

The other great work of Hiram was the Brazen or Molten Sea, and he made it of ten cubits from brim to brim, and the height thereof was five cubits. It stood upon twelve oxen, three facing each cardinal point.

Its purpose was to hold water for temple use for no spring flowed there.

After a reconstruction by H. Langstaff



NEAREST APPROACH TO EZEKIEL'S VISION: THE TEMPLE BUILT BY HEROD

It was in the very last stage of the great tragedy that the most magnificent of the three Temples was built; in 20 a.c. Herod began its construction, in A.D. 70 it was utterly destroyed so that "not one stone was left upon another." Zerubbabel's Temple had endured up to this period, but with many vicissitudes and in 37 a.c. it was seriously damaged; so Herod, to conciliate his subjects, determined to erect a building of new and undreamt splendour. All secular buildings were cleared away from the sacred hill and the available space sensibly increased, but the same distinction as of old was maintained between the various courts, and the Sanctuary was in the same position and of the same general plan although loftier. As in the model of the temple hill in page 844, this view is from the south-east; in the background is Herod's grim fortress of Antonia.

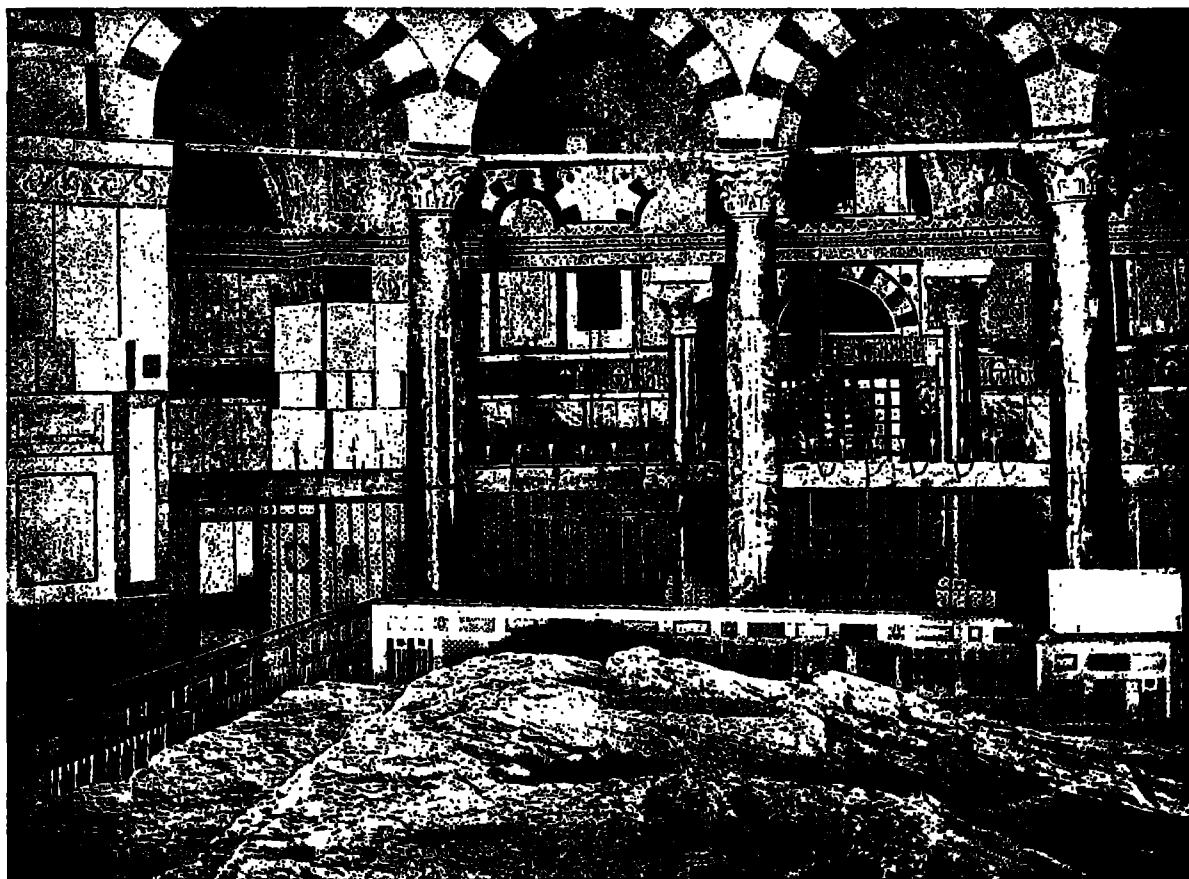
After a model by Dr. Schick; photo by American Colony, Jerusalem

entrance on the west, where there was, however, another cloistered porch. One of the two gates in the east wall gave access to the Women's Court, which was so called from the fact that women were admitted into it and could not go beyond it. It formed the eastern portion amounting to one-third of the inner court, was divided off from the rest and was on a lower level. The inner of the two gateways on the east, which directly faced the gate of the Temple itself, was a magnificent structure of Corinthian brass about 83 feet in height. It towered nearly 17 feet above the other towers and was broader by the same amount; it also exceeded them in beauty and costliness, even though they were overlaid with gold and silver. The lesser gateways seem to have been built over a square courtyard measuring 50 feet each way, from which access was obtained to rooms in the tower above. Round the walls of the inner court were numerous chambers built for storage and other purposes, and in front

of them, between the gateways, ran a continuous cloister on fine pillars.

In the centre of the inner court lay the inmost court, to which there was an ascent of twelve steps and which was confined to the use of the priests and Israelites presenting offerings. The Temple itself was within this court. Beyond the high altar of the "Rock" was the great doorless gateway of the "House," nearly 120 feet wide, through which could be seen the Holy Place of the Temple and the great curtain woven in symbolical colours that spread before the Holy of Holies.

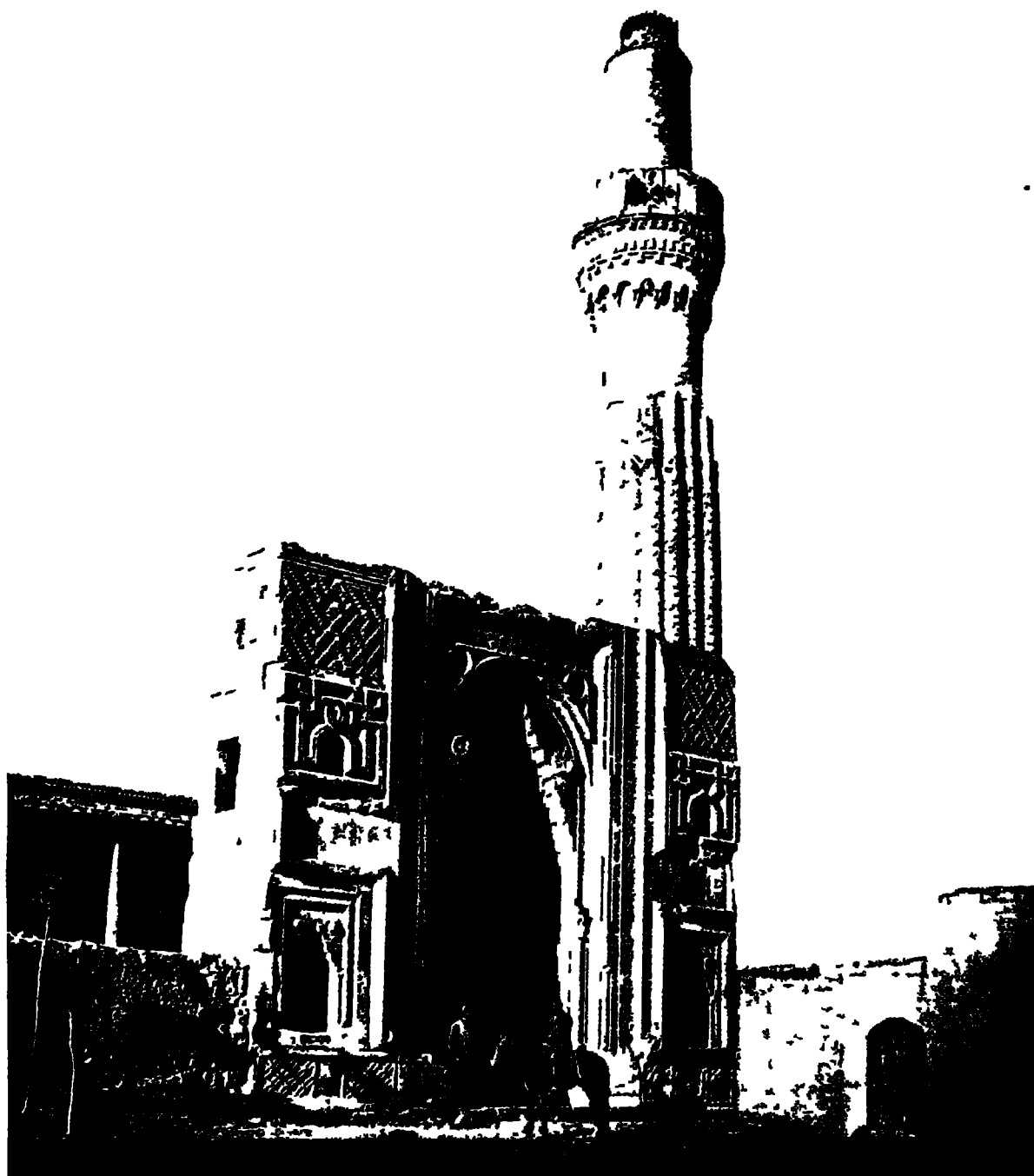
The mighty work begun by Herod in 20-19 B.C. was not completed until over 80 years later, between A.D. 62 and 64. In the year A.D. 66 the great revolt against Rome broke out in Jerusalem, and in August of the year A.D. 70 the Temple was burnt to the ground and utterly destroyed, on the very day—so says Jewish tradition—that the Temple of Solomon was overthrown.



THE OLDEST RELIC ON THE TEMPLE HEIGHT IS NOT A WORK OF MAN

To-day, after centuries of service as the base of the Altar of Burnt Offerings, the strange outcrop of rock on Mount Moriah is bare again—one of the few unquestionable links with the early days of the first Temple. Indeed tradition would make its history very much older, for it was here, so it is said, that Abraham offered up his son Isaac. Beneath it is a cave also tradition haunted but probably used as a sink to receive the frequent ceremonial scourings of the altar above.

Photo by Underwood Press Service



FAST DECAYING WALLS AND TOWERS OF A MOSQUE IN KONIA

The history of Paul's city of Iconium has indeed been eventful. When in 1097 Nicaea fell to the Crusaders, the city was chosen, probably on account of its central position in the wonderful Roman road system in Asia Minor, by the Seljuk sultans of the province of Roum. Although it has remains in the Greek type dating to a remoter age, its Seljuk buildings are most interesting, reflecting as they do a much more Oriental influence, such as the mosque shown here (Laranda Jami Sahib Atta) still graceful in its decay.

Photo from Sir W. M. Ramsay

The Wonder Cities. XXII.

The Romance of Konia

By Sir William Ramsay, D.C.L., Litt.D

Late Professor of Humanity, Aberdeen University : author of "The Cities of St. Paul," etc.

KONIA, the old Iconium of S. Paul's missionary travels, was one of the great capitals of the world under the early Turks, who in the fourteenth century had a proverb: "See all the world, but see Konia." The Turkish state of which it was the governing seat was known as "Rum" or "Roum," pronounced as Rome was by the Elizabethians, and by Shakespeare when he punned:

Now is it Rome indeed, and room enough,
When there is in it but one only man.

—Julius Caesar, Act. 1., Sc. 2.

By virtue of its name Roum was a continuation of the Roman Empire which had successive capitals—first at Rome itself, then at New Rome or Constantinople (where Phrygians, Isaurians, Cappadocians, Armenians sat on the throne of Augustus and Constantine), and finally at Konia. All these Asiatic dynasties based their power on maintaining the law and organization and in particular the name of Rome, but they were steadily Orientalising the Empire.

In the Byzantine period the people called themselves Romans, not Hellenes, still less Greeks; but they spoke Greek. The first Turkish Empire was Roum, not "Turk"; but they spoke Turkish, and their outlook was to the East, especially towards Persia, and not to Europe and the West. Roum had no western seaboard and no harbours, but was confined to the inner plateau of Asia Minor, for European merchants and adventurers, mercenaries and pirates, held the sea coasts and islands; the Grand Catalans carried their plundering raids far up to the east, the early Crusaders marched towards the Holy Land across Constantinople and Anatolia, the third Crusade captured Konia in 1175, the fourth captured and plundered Constantinople in 1204, and Genoese and Venetians built castles and fortresses all down the western and southern seaboard so that in the Turkish peasant speech of the present day Djinneviz (Genoese) is the name for old walls or old strongholds. Indeed, the destruction of the ancient civilization in Asia Minor was due quite as much to those rude soldiers and traders of Europe as to the Turks, the latter were more peaceful than the former. When I find that mounds in which the ancient chiefs and kings of the land

were buried, 50 or 100 or even 150 miles from the coast, have been opened and spoiled of their treasures, I attribute this to European robbers; for in the purely Turkish inner lands there are no signs of such pilfering.

Konia stands as representative of the first Turkish Empire in Anatolia or Asia Minor, lasting from 1071 until the Osmanli or Ottoman Turks made themselves supreme towards 1400. There are, or were, many other beautiful cities of the Turks, adorned with mosques, colleges, palaces and tombs, far too numerous to mention; but Konia was the greatest. The civil laws and customs of Roum were largely Roman and the trade continued on pre-Turkish lines; even after Konia ceased to be the Turkish capital the Ottoman Turks at Broussa, and afterwards at Constantinople, could not wholly escape the grip of the Roman tradition; but their art was learned from the East where Roman and Byzantine decorated architecture had been imitated and treated with the Oriental spirit under Moslem rule from 700 A.D. onwards.

So much for the historical setting; before passing to description it must be mentioned that the old Empire of Roum is also frequently called Konia, the name of the capital being applied to the whole country; and in the following account the term "Konia" sometimes refers to the state as a whole, and sometimes to the actual city. Throughout the Empire the monuments are remarkably uniform in type and character, and there might equally well be introduced among the illustrations some which are taken from other cities of Roum besides Konia.

Konia, then, is one of the cities that claimed to be the oldest in the world. Its situation, strikingly like that of Damascus, made it a centre of life from the beginning of organized society. Both cities lie near the mountains on the western edge of a vast dry level plain which stretches away to inner Asia; both are abundantly watered by streams from those western mountains (though the Abana and Pharpar, rivers of Damascus, are far more famous and carry larger bodies of water), both are literally embowered in gardens beside the desert; but the plains east of Konia are far



PANORAMA OF KONIA, THE ANCIENT ICONIUM OF S PAUL AS IT IS TO-DAY

more fertile than the Syrian desert east of Damascus and its villages are more important. At each city early society gathered inevitably to enjoy the bounteous provision of nature, and each must endure throughout the history of mankind. Legend places the foundation of Konia before the Flood—indeed the tale of the Flood and the mourning people is the oldest in its history.

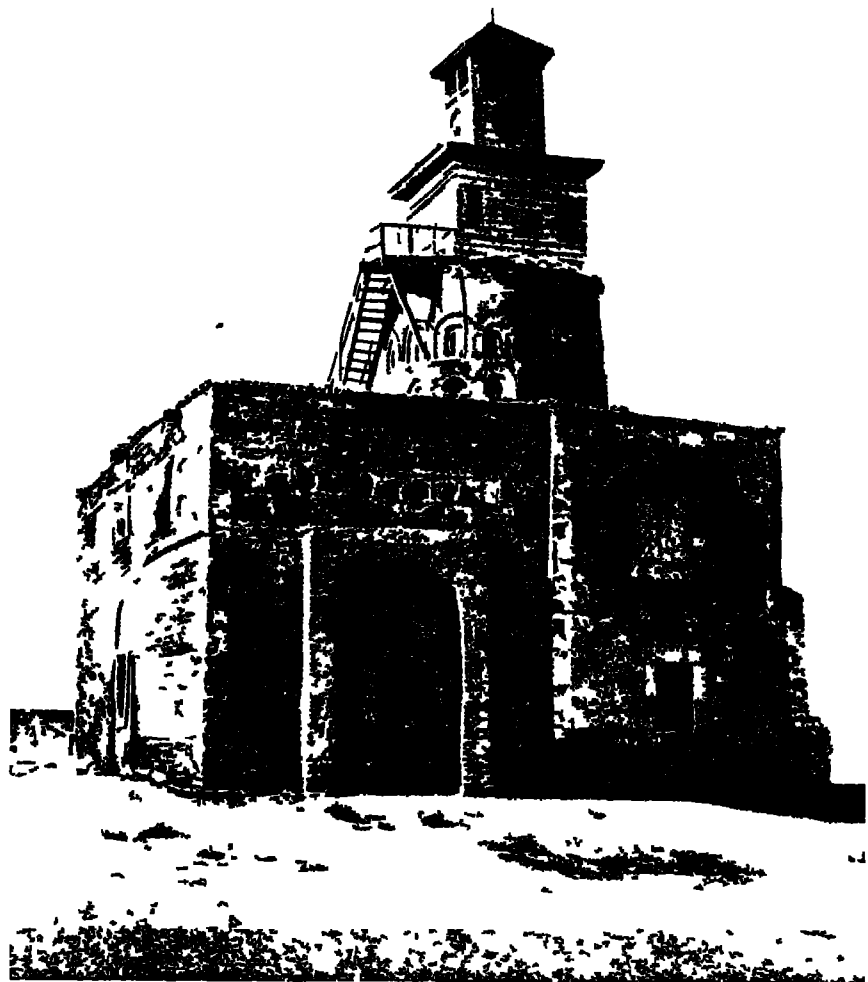
Hardly a trace remains in situ of pre-Turkish Konia, but much is concealed below the ground. In 1800, when Colonel Leake, the famous geographer, rode into Konia on his hurried mission from Constantinople to Egypt, he saw the walls two or three miles in circumference, strong and lofty, flanked with square towers which, at the gates, were built close together. They were the work of the early Turkish sultans of Roum who seem to have taken pains to exhibit the Greek inscriptions and the remains of architecture and sculpture belonging to the ancient Iconium. A great number of Greek altars, inscribed stones, columns, etc., were inserted into the fabric, which was still in tolerable preservation throughout the whole extent. One of those monuments was a relief representing a warrior, evidently of pre-Greek type. It was not seen by Leake, but Texier, who visited the town in about 1830, made a drawing of it. This is the sole known relic of the most ancient Iconium. No scrap earlier than the Greek Iconium is known to me, and nearly everything belongs to the Roman period. When I rode into Konia in 1882, the walls which Leake had seen in 1800 had almost entirely disappeared, but I did find in the last remaining piece of the wall, one inscription that was Christian of the early Byzantine time, probably as old as the fourth century A.D. The city had long been in a state of decay, and the Turks, having no need of defences owing to their long immunity from war, used their own walls as a quarry for building-stones. The construction of the walls was therefore clearly seen, they consisted of a thick core of sun-dried mud bricks with an outer coating of stones (almost all ancient and taken from buildings of the pre-Turkish period). Mud bricks form a useful and very cheap building material, but they must be sheltered from rains under which they quickly dissolve into their primitive constituents. But those stones from the wall are not all lost, they can be seen in houses, chiefly in the sub-structures, where mud bricks cannot be used, and in gardens. Whenever any digging is done in the city to-day for the foundations of a new house the old pre-Turkish stones are disclosed, and any resident who watches the process can discover them. In every garden that I have visited in the town many such stones are to be seen.

Most of the cities of the plateau suffer from lack of stone which is very rare on the great plains, while even the mountains often furnish little or no good building material. Hence the mud bricks must have been used from the earliest time. In the Greek and Roman period a more educated taste accustomed to the use of stone on the coasts and islands and in Greece, demanded and imported marble and other stone for all public buildings, knowing it to be more lasting and more effective, but even then ordinary private houses were doubtless constructed mainly of mud bricks with wooden beams interwrought. If carefully protected, such houses will stand for a thousand years, but the modern courtyards and garden walls are hardly shielded from the rain, except that on the top of the walls is placed a course of poor and cheap stones, or a covering of straw or reeds.

Konia was rebuilt almost entirely by the first Turkish sultans mostly during the twelfth century. The material was in great part taken from pre-Turkish buildings but unfortunately those architects who were sufficiently skilled reworked the stones to suit the new fashion and the changed religion. The rude peasant who uses the old stones as he finds them is a true friend of the historian, but technical training destroys the old to make the new.

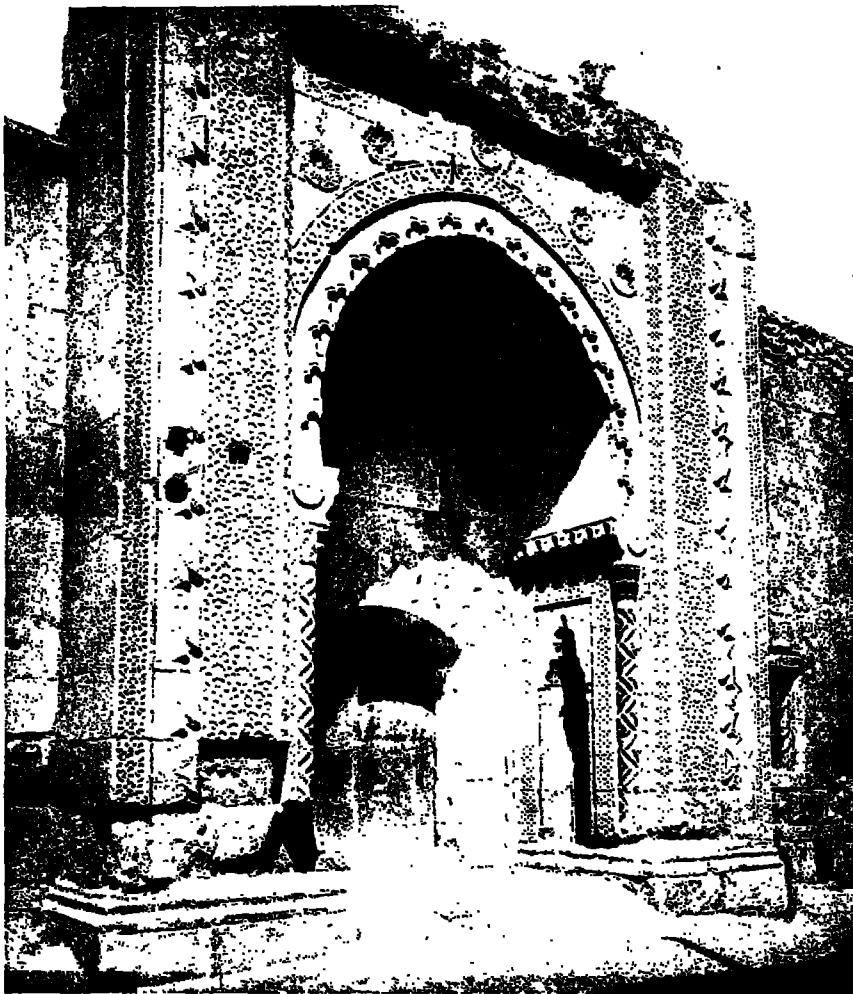
Aladdin of the Faith, the Aladdin of the Arabian Nights was the most famous of these early sultans of Roum. Aladdin in the story, by means of his wonderful lamp, built in a night the splendid palace of the sultan. He also built a palace for himself. They both in reality refer to the same palace—that which once adorned the hill that stands on the north east side of the city of Konia. More than one of the Arabian Nights stories

are connected with Asia Minor, one of the earliest and best has its scene on the road across the mountains from Taurus (once a capital of the Moslem Arabs) to Tyana, the city of the strange sacred lake—a lake of cold water which is always boiling as Strabo describes it in his Geography, written in Greek when Christ was about twenty years of age. A story which is widely used and localised at various points in Asia Minor, about a city that was overwhelmed under a lake was transferred to Tyana, and two other quaint scenes on the road, the castle of Black Marble and the lake with the marvellous fish, are mixed with Tyana and its lake. It was one of those



CHURCH OF ONE OF THE EARLY FATHERS AT ICONIUM

An outstanding feature of ancient Iconium that has lasted till the present day is this building originally an early Christian church under St. Amphilo. in who was Bishop of Iconium from A.D. 371 till about 400. After the Seljuks conquered the land it became a mosque, and now, its religious significance lost, it serves merely as a clock tower.



INTRICATE TRACERY OF ANCIENT TURKISH ARTISTS

Konia has many remains of the ancient Turkish epoch, though these, as we have seen, are fast vanishing. How well the craftsmen of that ancient day worked, how skillfully the sculptors carved in stone, is very evident from the involved and beautiful decoration of the entrance to the ruined Syrtchaly mosque shown here.

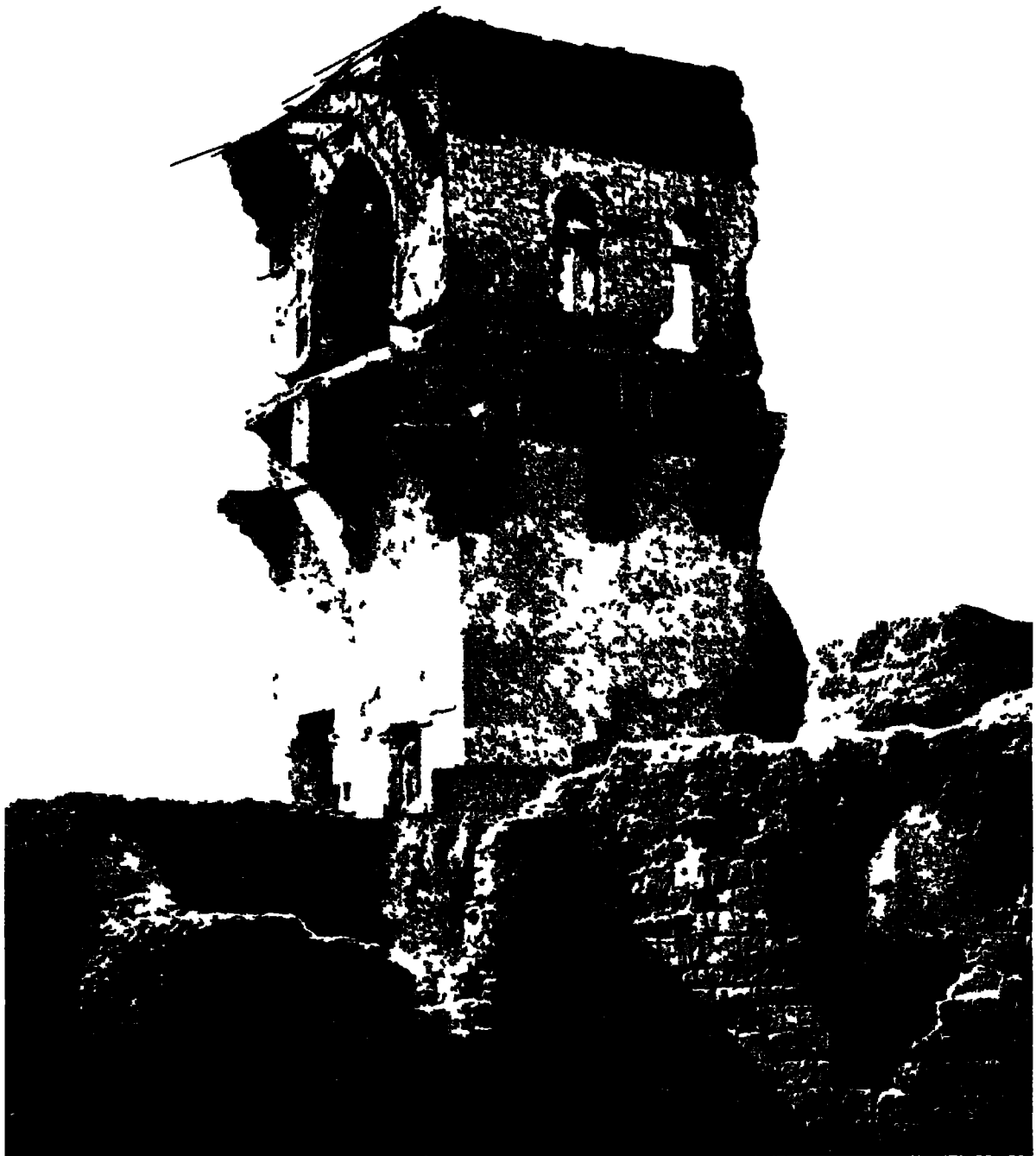
strange fish that caused the death of the Khalif Almamoun, as he was returning by Tyana to Tarsus from a raid in the Christian land. The castle of Black Marble is still a wonderful sight, high on a peak of Taurus overhanging the road.

Konia remained an interesting and beautiful city down to the early nineteenth century. After the sultans of Roum had been swept away and the Ottoman sultans of Constantinople reigned over the land, the old institution of the "Mevlevi"—i.e., dancing—dervishes protected and in some degree ruled it. The hereditary head of the Mevlevi—styled Tchelebi Effendi—gave validity to each new sultan by girding on him the sword, the warlike emblem of that power on which the Sultanate rested. These Mevlevi dervishes were regarded with deep respect and, in general, the

sultans left them and the rest of the great territorial aristocracy to do as they pleased, so long as tribute was paid and a quota of soldiers furnished in case of war. They were great local families who lived among their people, protected them and dispensed mild justice among them. They practised almost boundless hospitality and rarely, except under compulsion, visited Constantinople, for a summons to the capital was feared as dangerous and often resulted in execution. The Tchelebis were very liberal in religion and absolutely free from bigotry; in fact, dervishes were generally regarded, in the centuries before 1830, as hardly orthodox Moslems. They drank wine and still drink it—in fact, often too freely. They learned Persian as a more educated tongue; they encouraged poetry and literature; but having little stimulus to progress they have now lost all eagerness and initiative. Their colour is not the Moslem green, but blue, which is regarded by Moslems as unlucky, and apt to put

"the evil eye" on beholders. They could not become sultans, though occasionally some local powerful family rebelled, but there was no other post superior to that which they occupied among their own people and friends. The only religious duty of the Tchelebis consisted in presiding at the dance every Friday at noon.

The mosques of Konia, and especially the great "Tekke" of the dervishes where the dances take place, were the chief ornaments of Konia after the palace of the early sultans. The palace, however, fell into decay. It was still used as a government house in 1800, but new offices in the centre of the city were built after 1850 and the destruction of the old palace was accelerated; it was a quarry for the population and the governing officials, and in 1882 only a small part of it



RUINS OF THE PALACE OF THE SELJUK SULTANS OF KONIA

Long ago when Konia was a great and busy city of Asia Minor, its principal buildings were the mosques and 'lekke' of the dervishes, but dominating the city in size and beauty rose the finest building of all the palace of the early sultans. Now all that remains of it is this gaunt but picturesque ruin of one of its towers. The building was used for government offices until 1800 but in 1850 new buildings were raised for this purpose and the doom of the old palace was sealed, soon, probably all traces of it will have disappeared.

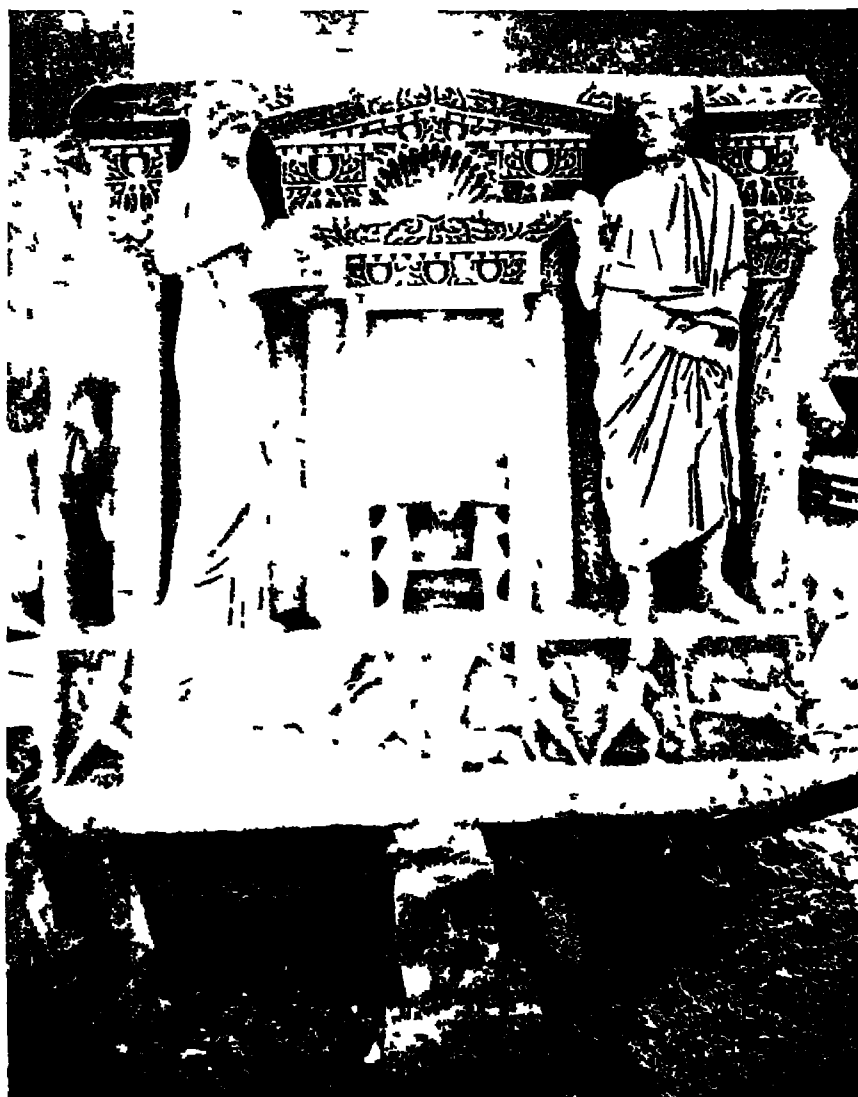
remained. In 1886 when I revisited Konia there was only one wall of a tower left standing and this still stands merely because there is practically nothing visible in it worth removing.

In the now destroyed part of the palace which I saw in 1882 there was shown a little courtyard where a spring of water now dried up and entirely covered over by soil was said formerly to have existed. It was stated to have been called Plato's Spring. The old Greek philosopher Plato passed in tradition into Arabic and early Turkish literature under the name of İfritun as a supremely powerful magician just a Veil in the Middle Ages in

Western Europe, was known to the people only as the most powerful of magicians. In modern nomenclature Plato's Spring still remains as the name of a remarkable spring rising from the ground near a great lake eighty miles west of Konia over which was built in remote times a little temple or chapel on whose one remaining outer wall of enormous stones there are sculptured representations of the supreme god and goddess and attendant divinities. This little temple was built at least a thousand years before Plato, but the spring near its walls was believed to have been produced by his magical power.

In Nikda, or Nigdeh, another city of Roum beside the ancient Tyana 100 miles east of Konia, there was a very beautiful tomb of a sultana which used to be famous as the most beautiful building in all Turkey. The pasha who resided at Nikda when informed that we had been visiting this tomb remarked "It was formerly called the most beautiful building in Turkey, but we have now learned better taste." At Konia itself there are no beautiful tombs, the Moslem dead are buried with the minimum of ceremony and the maximum of despatch. Only the old Tchelebis remain in their great coffins shrouded with precious cloths with images of their turbaned heads at the end, giving the whole something of that anthropoid appearance which was customary in ancient Egypt, as shown in the plate facing page 549. The employment of anthropoid sepulchral representations in stone or other material remained customary through the Byzantine period in Asia Minor right down to the present day.

Those old Tchelebis lie in state in part of the Dervish Tekke, a very



A RELIC OF PRE-TURKISH KONIA

Now to be seen in the Istanbul the great sarcophagus, 12 feet long, is one of the rare relics of the civilization and art of Konia before the city and province came under the sway of the Seljucks. The beautiful workmanship which fashioned its figures is more suggestive of Greece and the West than of the Orient whence it comes.

Photo from Sir W. M. Ramsay



HUNTSMEN AND HORSES IN MARBLE AT KONIA

Above is another photograph of the stone sarcophagus illustrated in the opposite page; here one of the sides is shown. The work is typical of a school in Konia which represents the last effort to revive the moribund Greek art immediately before its ultimate degradation and the triumph of Byzantine art under the early sultans. The series of larger figures represents a woodland hunting scene and below is a frieze also in high relief, of doubtful interpretation; every figure is imitated from a Greek original.

Photo from Sir W. M. Ramsay

beautiful building where in a great hall the dances take place on Friday and the five daily prayers are held. The Tekke therefore is both a great monument of the dead and the hallowed meeting-place of the dervishes for religious services. Attached to it are buildings where the dervishes live. The Tchelebis are the hereditary owners of large estates in several parts of the country. I have visited two such estates which are both called "Black Lion" (Kara-Arslan), and the very name carries us back to the most ancient known period of Anatolian society when the lion was the sacred embodiment of power and often represented on the tombs as the divine guardian of their sanctity.

The whole complex of buildings which constitute the Tekke forms the most remarkable and beautiful

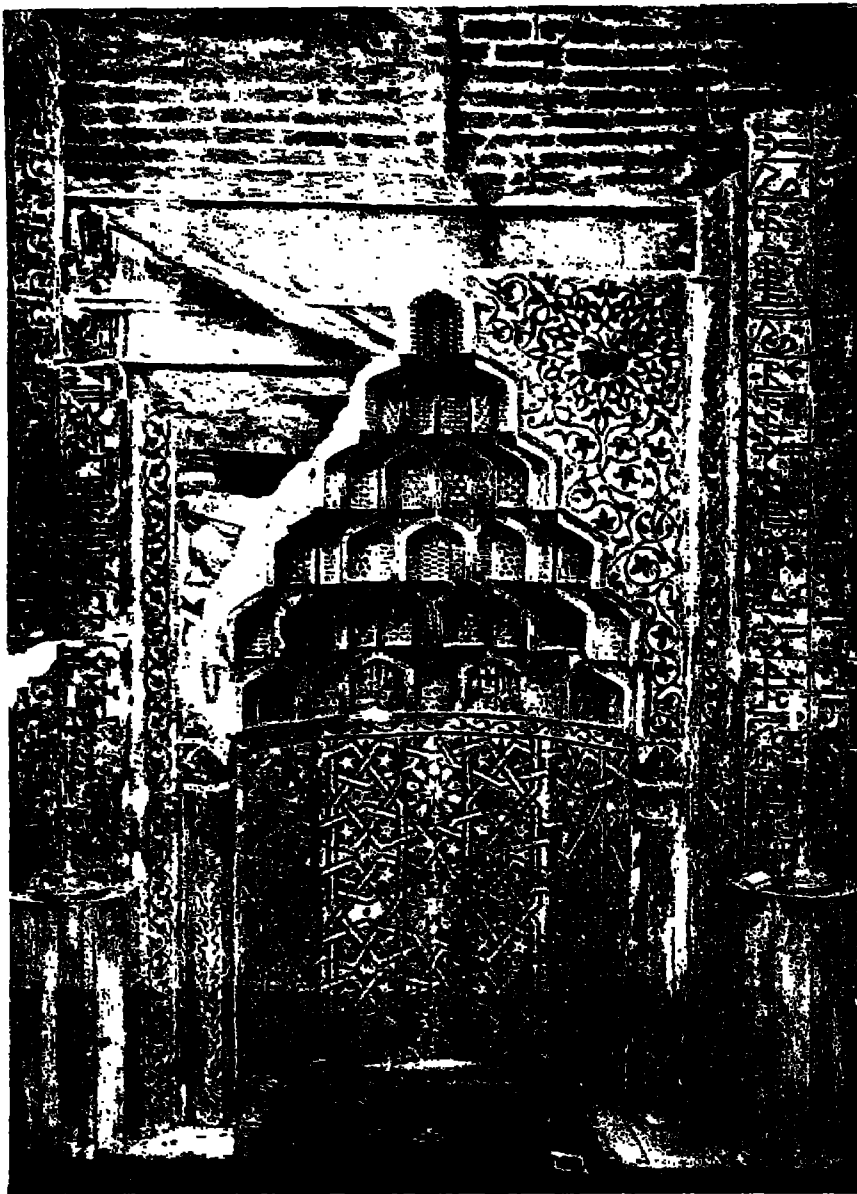
memorial of early Turkish history in Konia. In the city itself there are no very old or beautiful colleges, but a number of fine ancient mosques



EARLY CHRISTIAN SYMBOLIC ART

Near Konia lies this overturned grave-stone of a bishop of the Christian church there in the third century. The fish is a primitive symbol of the divine Saviour and the opened tablets in the rounded pediment in the centre typify the account book from which the final reckoning will be established on the last great Day of Judgement.

Photo from Sir W. M. Ramsay



MAHOMEDAN STUCCO THAT STANDS NOT THE TEST OF TIME

In Konia there is found in the mosque known as Bey Hekim Jami this exquisitely designed "mihrab" or sacred niche let into the wall facing Mecca. The passage of time has dealt a heavy blow here, but one can still appreciate the skill that worked the gracefully twining plants and the starry decoration below. In the foreground is a beautiful prayer mat.

Photo from Sir W. M. Ramsay

merit the visitor's attention, each with its slender, graceful minaret from which the muezzin, at stated intervals, calls the faithful to prayers. It is especially on their outer doorways that the ornamentation in arabesque work is lavished.

The endowment for the support of those mosques and other religious or charitable foundations, e.g. the fountains, took the form laid down by the old Roman Law of burdens upon landed

property. Such property could be bought and sold in proper legal form, but the burden passed from seller to the purchaser. Unfortunately for the maintenance of such foundations, the value of the piastre fell seriously in more recent times and the endowment ceased to be adequate for their proper maintenance. The result was that almost all those old foundations fell into decay, and in about 1880-1882, when we first were travelling through Turkey, most of the mosques were in serious disrepair and sometimes even closed and deserted. It is to the credit of the late Sultan Abdul Hamid, that name of ill omen in history, that he set about the creation of a Department of State specially charged with the maintenance of all such foundations, and in consequence a good deal has been done, albeit with inadequate knowledge, to preserve such old monuments from further decay. The State thus stepped in to counteract the effect of the depreciation in the value of Turkish currency, whereas in the Western Europe of to-day this depreciation is sometimes even deliberately practised by states in order to escape their obligations to their own people and to

foreign powers. The Mevlevi dervish foundations were saved from the general depreciation by the fact that the dervish chiefs themselves were the hereditary owners of the estates and responsible for the maintenance of the institutions.

A proverb is still current in Konia: "He that visits Konia once will come seven times." I can bear witness to the truth of this adage, for the charm and wonder of the city are imperishable.



Here



Here



Go



are hunting wild
ding

KINGLY SWORDS TO SIRT THE MYCENAEAN DEAD

Most of us of all the world, it is Schliemann who has been the first to show us the magnificent
swords that had not been served to the kings in his time, and the first to show us the magnificent
electrum — a alloy of silver and gold — which he found in the sword hilt of the king of Mycenae.
hilt served to fix in place a raised golden handle such as may be seen in the picture on page 868
which is the same as the one in the picture on page 868.

The Wonder Cities. XXIII.

Golden Mycenae

By J. L. Myres, M.A., F.S.A.

Wykeham Professor of Ancient History, Oxford

"**G**OLDEN MYCENAE," "of the wide ways," capital, palace, and fortress of Agamemnon in the days of the Trojan war, lies, just as Homer described it long ago, "in a nook of Argos," the broad and once fertile plain which opens out into the gulf of the same name on the east coast of peninsular Greece.

The sea frontage of the plain is about four miles from the steep fortress and harbour of Nauplia, its earliest as well as its modern port, to the marsh of Lerna, south of Argos town, where Herakles (Hercules) slew the many-headed Hydra, and the railway now begins to climb uneasily up into Arcadian highlands; and level ground extends inland about eight miles to the rough gorge by which road and railway make their way northwards past Nemea to Corinth.

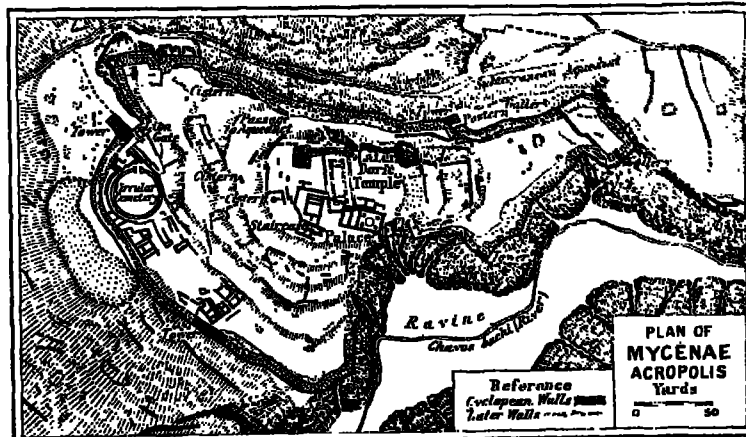
A little to the east of this upper end of the plain, overshadowed by two finely-shaped peaks, but separated from them by a pair of diverging torrent beds, nestles a lower spur, inconspicuous now, but once the most notable site of the whole district. In shape, this hill resembles a human right foot cut off at the ankle, and planted with its heel against the mountain flanks and its toes pointing out into the plain. Under the instep is the larger ravine, which has gnawed away the steep slope and made it precipitous with landslips. The main road from the sea and the plain winds up over the great toe to the outside of the ankle, turns, and enters the citadel whose rugged fortifications crown the whole like a giant's anklet and enclose all that is left of the prehistoric palace, and of a Greek temple which was built centuries later over its remains.

Scattered over the lower slopes lay the living-quarters of the town; between them the "wide ways," with their terraced fields, which caught the poet's eye; and among those fields, sunk in solid rock so that only their carved and painted portals betrayed their whereabouts, the splendid family vaults whose ancestral wealth, pillaged

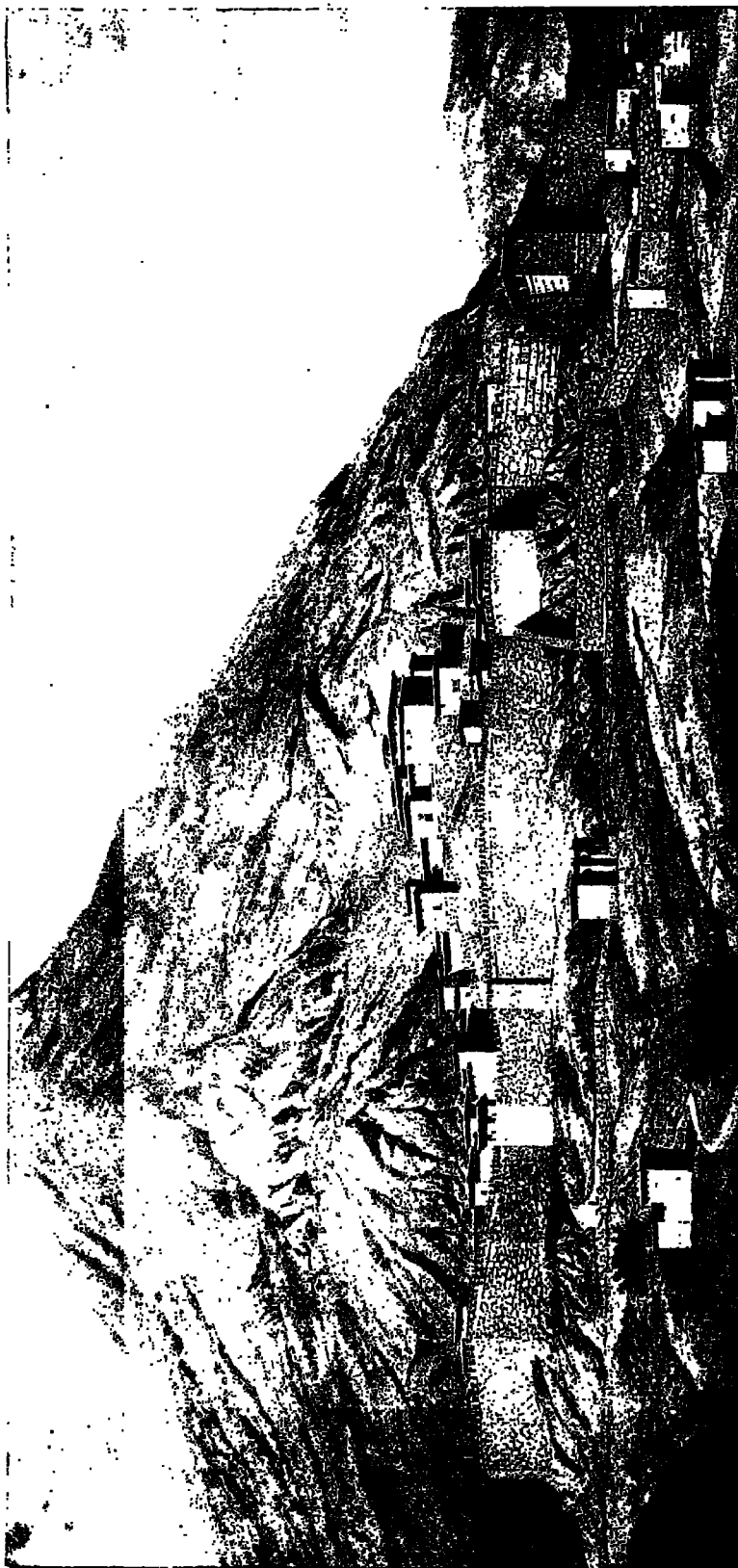
perhaps even before Homer's own day, made Mycenae the "golden city" of his song.

So placed, and commanding alike the wealth of the plain, its corn lands and memorable horse-ranches, and the routes which converge on its upper end from inland valley-states, from the ports and fertile shores of the Corinthian Gulf, and from the farther north by the trunk road of the all-important isthmus, Mycenae could hardly have avoided the fame and prosperity which befell it so soon as the Greek mainland began to share the dawning civilization of Crete and the Aegean Islands, in the early Bronze Age of the third thousand years B.C. Yet it was only after long occupation of the lower plain, with its venerable fortress at Tiryns, and settlements even more ancient around the majestic Larisa hill at Argos, that the military and commercial advantages of Mycenae were appreciated, as a warden of the marches separating Argive lowlands from Corinthian, as a rallying-point in case of attack either from the hill-folk or from overseas, and as a stronghold from which to levy tribute on neighbouring settlements, and blackmail on convoys of merchandise travelling through the passes.

Three main stages may be distinguished in the long career of Mycenae. In the first, the citadel was still small, though heavily fortified, and the royal tombs of its owners were "shaft graves" sunk in the rock along the upper part of its main



After Steffen & Thomsen



GOLDEN MYCENAE AMASSED WEALTH BEHIND HER WALLS CENTURIES BEFORE AGAMEMNON SAILED FOR TROY
 Mycenae—"Golden Mycenae"—is indissolubly linked in our minds with the Siege of Troy, Agamemnon, and the whole tragic legend of the Atridae. As often in other cases, it has been the songs of poets that have kept fresh the memory of a flourishing city else forgotten. But to see again its growth and greatness we must go far beyond the Achaeans of Homer, who were, like the Normans of a later date, little more than the inheritors of a civilization not their own, a small but conquering band of dynasty-founders. We must go back to a small, dark, Aegean race, colonists perhaps from Crete, who in the second millennium B.C. built the citadel by degrees much as this restoration shows it, with postern gate on the left, lion gate on the right, and the roofs of the palace rising above the walls in the centre. The lower town, west of the citadel, is indicated on the right
 After a restoration by Ch. Chipiez

approach. How these were rediscovered by the persistence and enthusiasm of Heinrich Schliemann, nearly sixty years ago, is one of the romances of modern archaeology, and opens a new chapter in the story of prehistoric times. Their amazing contents, gold vessels, gold rings and necklaces, embossed and intricately decorated gold fittings and platings for furniture and clothing of which the perishable parts are dust or splinters, revealed not only an elaborate craftsmanship and a wealth of complicated design, but a whole style of art, with traditions and ideals of its own, not merely pre-Hellenic—for this period of "Mycenaean" civilization runs from about 1800 B.C. to 1500 B.C.—but utterly un-Hellenic, and unrelated (at the time of its discovery) to any comparable finds.

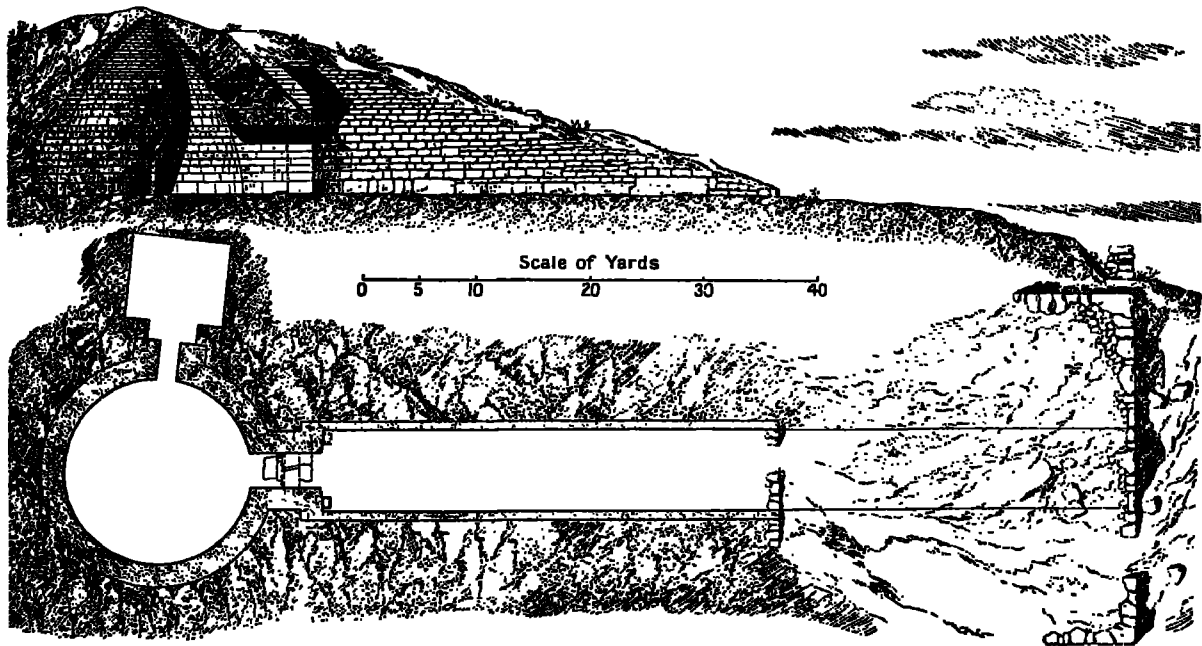
Only by slow degrees, until the patience and ingenuity of Sir Arthur Evans more than repeated in Crete the achievements of the discoverer of Mycenae, did the true bearing of the "shaft graves" and their contents become clear, as the masterpieces of a colonial offshoot of the Minoan culture, planted on a mainland shore of its Aegean home, which, small as the Argive plain and its surroundings seem to us, must have loomed large as New England or Virginia before those first daring explorers of it.

Then, through some crisis in the history of

Mycenae, of which we still know little, the "shaft-grave" princes passed away; their palace gave place to the dwelling of a new dynasty; their burial ground, almost forgotten, was enclosed within a larger and more effective fortress-wall, with its imposing "Lion Gate" and flanking tower masking a new and more defensible approach.

masonry, nearly fifty feet in diameter and in height, with a door lintel weighing over forty tons.

Of the palace belonging to the occupants of these "beehive tombs," considerable ruins crown the citadel, approached by a broad staircase and entrance court, on to which open the portico and vestibule of the main hall, with painted stucco



SECTION OF THE "TREASURY OF ATREUS," TOMB OF A NAMELESS KING

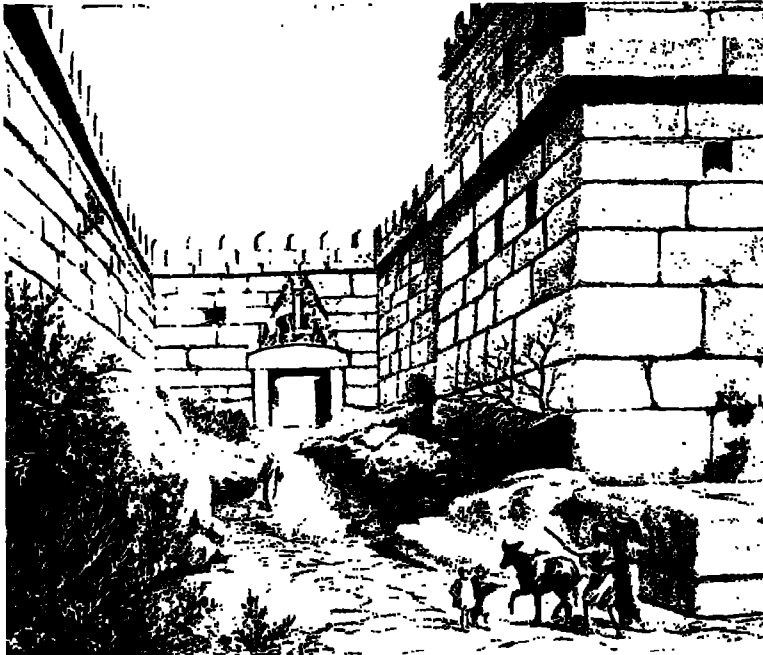
Outside the walls of the Acropolis have been found several strange underground chambers, of which the largest is given above in plan and section. A beehive-shaped vault, built of dressed stone, is embedded beneath the flank of a hill, and an entrance left in the shape of a cutting like the mouth of a sap. The Greek traveller Pausanias first used the term "Treasury of Atreus" in this connexion, but modern archaeology proves it and its fellows to be tombs long since despoiled.

After Thiersch & Dörpfeld

Only rather later did pious, or superstitious, hands erect a stone ring-fence round all that could be identified of the old cemetery, and lay to rest within it all that could be collected of the old royal gravestones; where Schliemann was to find them, and the graves themselves below. For these later lords of Mycenae had other habits and observances. Theirs are the great "beehive tombs" scattered among the gardens of the Lower Town, more splendid architecturally than any "shaft grave," and probably as richly furnished; but, alas! more conspicuous, and all looted (it seems from their present state) before Greek history began. Even their sculptured façades have been shattered by their despoilers, and only the faultless workmanship of the largest of them—the "Treasury of Atreus," as Greek antiquaries named it, after the father of Homer's "Lord of Men," Agamemnon—has resisted time and turmoil until to-day; a cupola of great

floor and walls in a style reminiscent of the palace decorations of Crete, and (still more closely) of the neighbouring palace at Tiryns, near the sea-front of the plain, even more magnificent in plan, and fortunately much better preserved.

Life in these Mycenaean palaces in the fifteenth and fourteenth centuries B.C. was an odd mixture of primitive simplicity and almost modern luxury. Buildings, furniture, clothing, and ornaments were lavishly decorated in flowing forms which had once copied natural objects but had run riot in an "art nouveau" of spirals and flourishes, experiments in form for form's sake, more ingeniously planned than accurately executed, so exuberant was the artist's fancy, so rapid his facility in handiwork. It was an age of easy achievement and rather gaudy display; of athletic sport, dangerous and even cruel games, prize-fighting, bull-baiting, and a good share of real war, with single combat between champions



armed with a broad, keen-edged rapier, a two-handed lance, and a vast, flexible body-shield of bull's hide, rimmed and emblazoned with gold or gilded bronze, and slung in front of the warrior from a shoulder-strap.

They loved their horses and dogs, their lumbering loose-built oxen, their fishing and fowling, their deer-stalking, perhaps most of all their occasional encounter with the lions which came down among the herds in Greece then, as they do nowadays in Rhodesia. Their women were worthy of these sportsmen; large-eyed, loose-haired, hoydenish creatures in flounced and embroidered skirts and excessively low-necked jackets, who danced and played and hunted, it seems, like



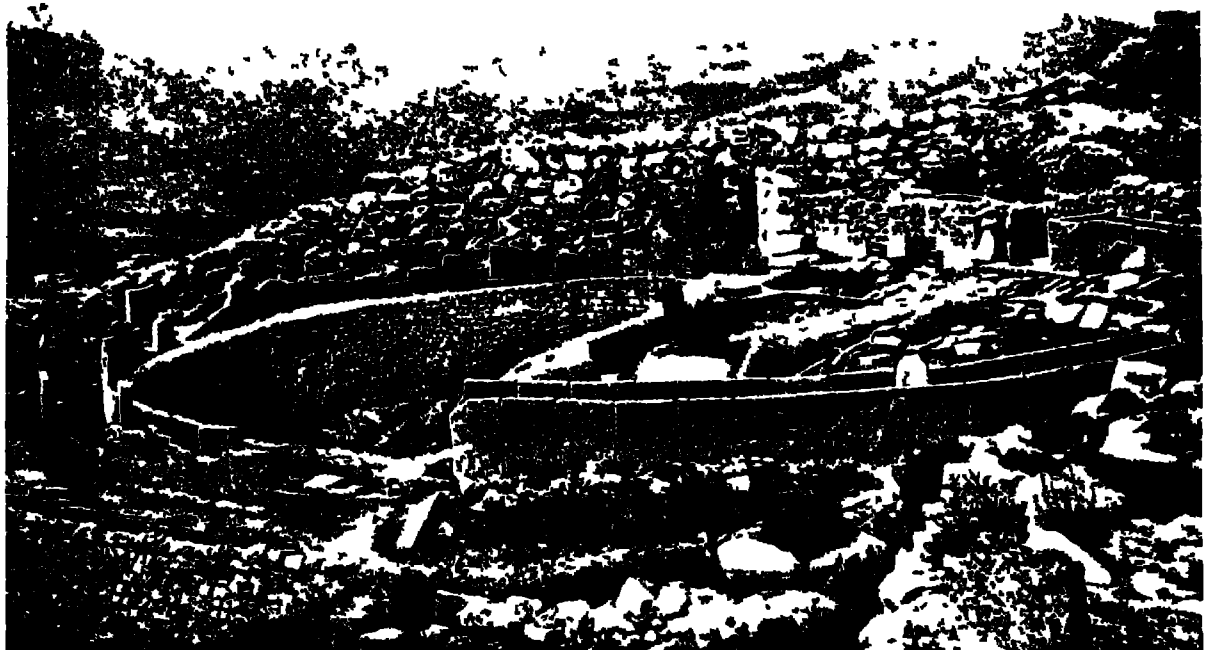
WHEN IT GAVE EGRESS TO ARMED HOSTS, AND TO-DAY: THE LION GATE FROM WITHOUT. About the beginning of the "second epoch" at Mycenae—the period that has left the beehive tombs—the walls of the citadel were strengthened, and on the west side extended so as to include the cemetery of the earlier kings (see page 863); and the magnificent gateway which was built in this section was adorned above the lintel with a slab representing two heraldic lions flanking a "baetyl" or sacred pillar. The purpose of this triangular space, empty save for the slab, was probably to protect the lintel from direct pressure as in the beehive tombs. The sacred pillar is characteristic of early Mycenaean worship.

Photo by the Autotype Co.

the men, and joined them in feast and worship waved adieu to the fighting force as it marched out and wept over an ownerless shield after the war was over

All this and more we see vividly depicted on palace fresco, tombstone and painted vase and on those engraved sealstones and signet rings which everyone seems to have worn and used to seal up provisions and other valuables temporarily as we would now days turn a key in a lock.

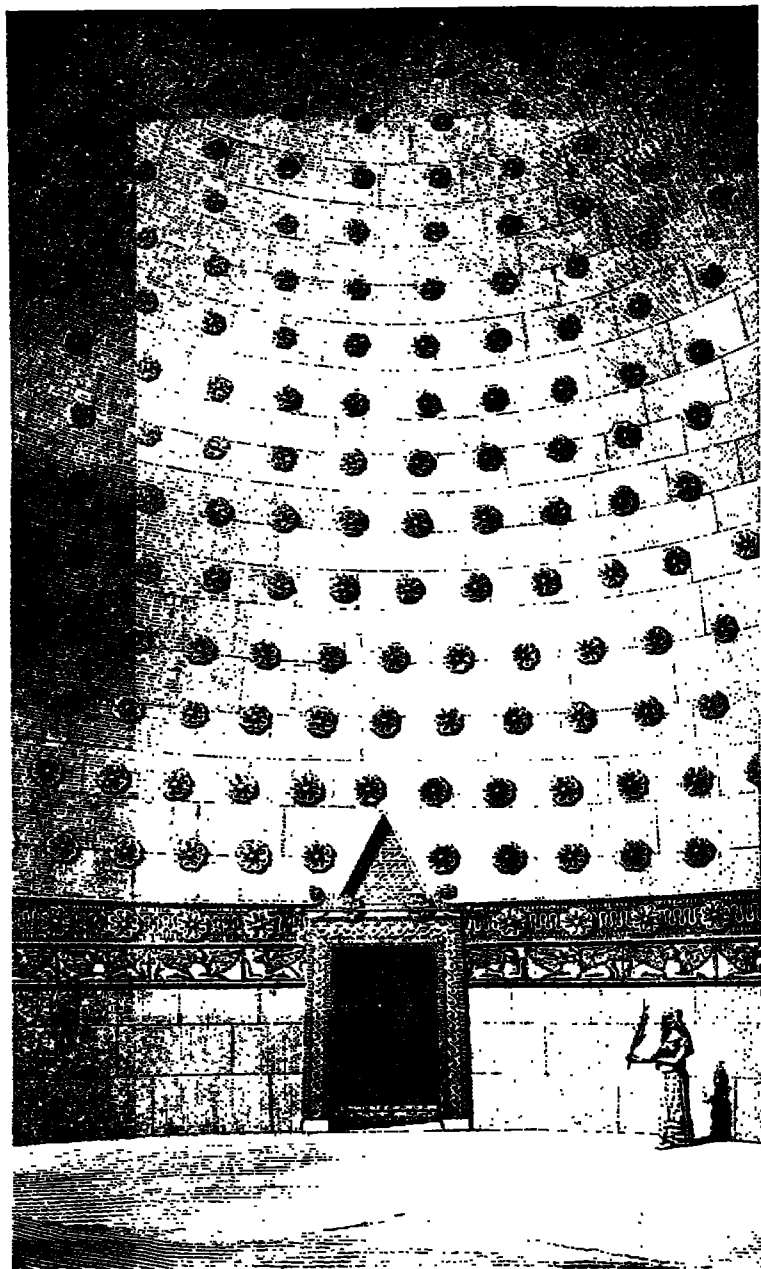
Standing as it did as an outpost of Minoan civilization towards the rugged and still barbarous interior of mainland Greece Mycenae seems to have retained much of the earlier vigour and 'push' of its founders. How far it benefited also from the fresh blood of the mainlanders, or from the descendants of the Minyan



POSTERN GATE, AND BURIAL CIRCLE WITHIN THE LION GATE AT MYCENAE

Above: So called "postern" gate in the north wall of the citadel. Though strongly protected by a re-entrant in the wall, it was obviously not of such importance as the Lion Gate (see page 864). Below: The circle containing the shaft graves, where Schliemann made such a rich find. The slabs surrounding it were probably the original "stelae" (gravestones) rearranged as a fence when, owing to enlargements of the city, it became necessary strictly to define the sacred area where the old kings had been buried.

Photos by Underwood Press Service



"TREASURY OF ATREUS": FINISHED INTERIOR

The tomb itself is not a true vault, but is formed of narrowing rings of masonry, the final course being a single stone placed hntel-wise on the top. The interior was decorated, as this reconstruction shows, with bronze nails, for which the holes are still visible. The door opens into the second chamber shown in the plan in page 863.

After a reconstruction by Ch. Chipiez

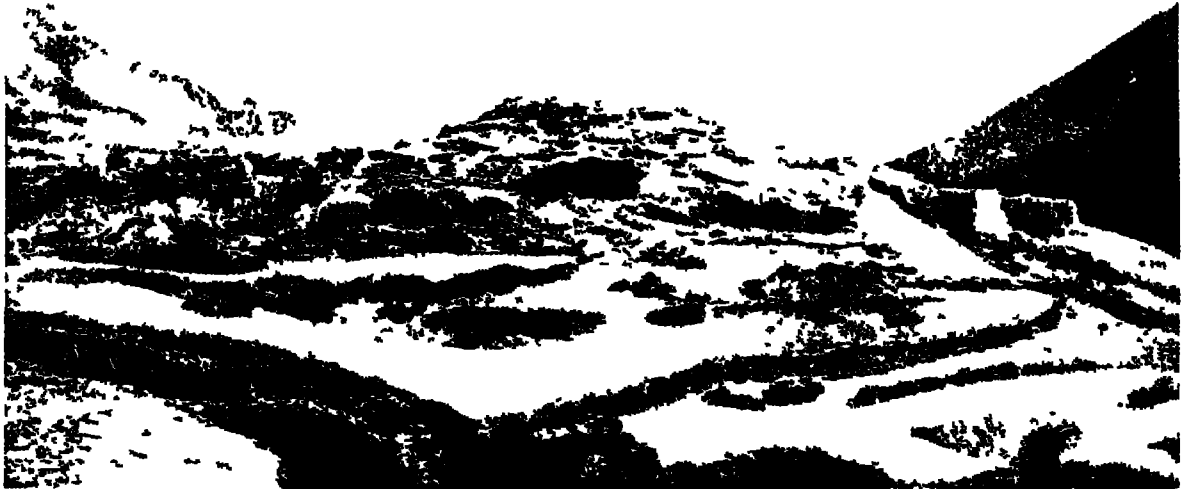
invaders from Central Greece, it is more difficult to decide. What is certain is that, in common with other mainland settlements, Mycenae found the predominance of the Cretan palace-regime irksome and at last intolerable; and it was apparently the mainland states which were

responsible for the destruction of the Palace of Cnossus, somewhere about 1400 B.C., and for the replacement of Cretan by Mycenaean style and mode of life in the archipelago generally. Probably we may recognize in the Athenian legend of the liberation of that part of the mainland by the local hero, Theseus, from a cruel Cnossian overlordship, folk-memory of this momentous crisis; and a Cretan legend of the overstraining of the resources of the "sea-power of Minos" in a Sicilian expedition like that which ruined Athens in the fifth century B.C., perhaps gives a glimpse of the same catastrophe from another, though legendary, point of view.

Over the shattered sea-power of Crete, Mycenaean adventure spread rapidly, colonising in its turn within the Aegean, in the central islands, and in Rhodes and the coastal fringe as far north as Patmos; while along the frontage of the old Minyan region north of the isthmus, coast settlements have been traced in Thessaly, and even in Macedonia, near Salonica. In the wide seas beyond the long breakwater of Crete, as far as Cyprus eastward, and westward to Corfu, South Italy, and Eastern Sicily, it was the same; and there was active intercourse with Egypt during the reign of Amenhotep III. and onwards, and with the prosperous and cultured states of the Syrian and Cilician coasts.

How far this wider extent of Mycenaean civilization centred politically, or even economically, on Mycenae it is difficult to judge, so severely have the surface layers at Mycenae itself suffered, both from subsequent occupants of the site and from its eventual desertion. But the tombs of this period of expansion (which have naturally preserved much that is obliterated

above ground) show us a rich, populous, and widely connected city, practising the same arts and industries as of old, only with less solidity of construction, less accurate workmanship, less refinement and sobriety of taste. The shoddiness of many classes of objects, in fact, suggests



VIEW OF MYCENAE AS IT IS TODAY, AND DOOR OF THE LION TOMB" FROM WITHIN

Above A barren knoll, in the embrace of the twin ravines of the Kokoretsa and the Chavos bachi, close to the upper end of the plain running inland from the Gulf of Argos—such is Mycenae today. Once she exacted tribute far and wide to swell the hoarded gold of her kings. Below Door of the "Lion Tomb," showing the stonework of the period, probably the late fifteenth century B.C. Note the vastness of the hotel. It is the organized labour involved that suggests that these were royal tombs.

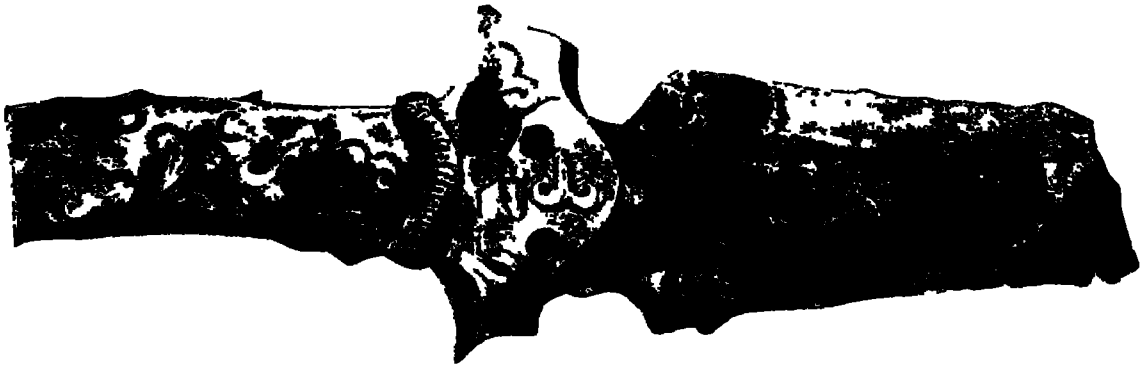
Photos by the Autotype Co. and by permission of the British School of Archaeology at Athens



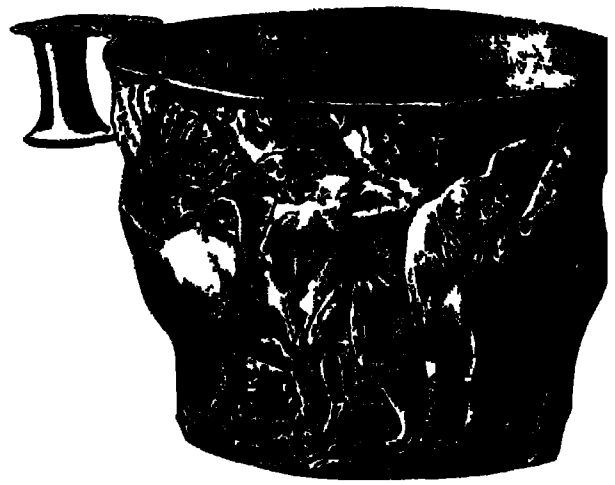
ENTRANCE TO ONE OF THE SEVEN DISCOVERED BEEHIVE TOMBS, THE TOMB OF CLYTEMNESTRA

Since one of the domed or 'beehive' tombs was pointed out to Pausanias, the Greek Brödcker, as the "Treasury of Atreus," it has become the fashion to call the more important of those recently discovered by the names of the ill-fated members of the Atreid family, thus there is the "Tomb of Clytemnestra," and the "Tomb of Aegisthus." It need hardly be said that this implies no archaeological justification. The Tomb of Clytemnestra here illustrated is but little smaller than the Treasury of Atreus, but it differs in that it has no subsidiary chamber and the masonry is rougher and smaller sixteen courses for instance instead of nine, rise from ground to lintel. On the left the base of one of the ornamental pillars which flanked the doorway is visible while the hole in the masonry above held the lamps that returned the light from the passage.

Phot. by L. A. and L. A. Service



One of the swords from the Mycenaean shaft-graves though not plain in rid with conventional hilts is unique in that it has retained its handle. This is not hollow but was once filled with a core of ram-horn material. To weld the tang of the sword was driven rivets through the two holes visible in the center of the picture secured to the hilt.



The famous Vaphio cups are not strictly Mycenaean though discovered in the same tomb at Vaphio in Southern Greece; they merit inclusion here, however, as they are excellent representative of the whole craftsmanship of the period known as "Mycenaean"—a civilization that may indeed have had its center at but was not confined to Mycenae. They were unearthed in 1898.



HAZARDS OF THE CHASE ON CUPS THAT BRIMMED 3,500 YEARS AGO

Two more swords may here be seen differing little from those seen in the previous plate—but in the center are the two cups whose discovery at Vaphio did more than anything else to give the metal workers of Mycenae in times their deserved repute. They are of gold about 4 inches across at the brim and about 3½ inches high and their ornamentation is deep repousse work. The left hand cup shows a bull hunt in which two men have come to grief—the right hand cup shows the captured bulls.

Reproduced by permission of Messrs. Clapperton & Hill for the Art & Literature Society of the University of Cambridge

large-scale production under stringent industrial conditions, where the workman was no longer his own master, and produced his wares in workshops perfunctorily and to stock designs

Wholesale and hurried repairs of the fortress wall, and the discovery of a foreign sword among the ruins of the palace, give us glimpses of political events—of warfare and siege—which we cannot verify at present, but there is ominously rapid improvement and considerable variety of type in weapons and armour of all kinds

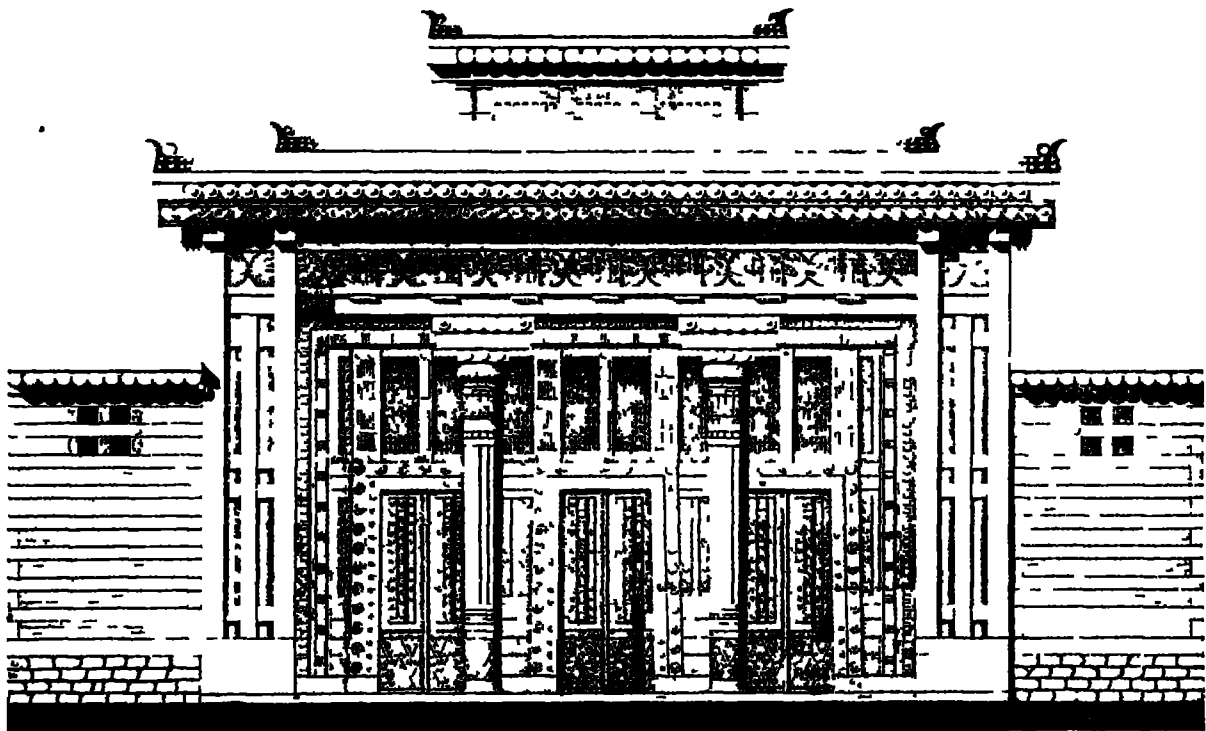
Thanks to the comparative accuracy of archaeological dating among the products of Egyptian art, and the fairly copious intercourse between the Mediterranean coasts and Egypt during this period of Mycenaean expansion, the latter part of this period becomes almost historical, in the stricter sense of the word. A sudden change in the foreign policy of Egypt, and the terms of a defensive alliance concluded in 1279 B.C. between Ramses II and the "Hittite" power in Asia Minor, are the prelude to a new age of violence and confusion which loomed up from the north-west—where "the islands were troubled in the

midst of the sea"—and broke in disastrous "sea-raids" and "land-raids" on both parties to the treaty, in the years about 1200 B.C.

Greek folk-memory, which at this point becomes copious and vivid, records the establishment of new political regimes about 1270 B.C., "Phrygian" and "Trojan" in Thrace and North-west Asia Minor, "Phrygian" and "Achaean" in peninsular Greece and the island-world, a great quarrel between these two groups of peoples two generations later, leading to a "Trojan war" which lasted from 1194 to 1184 B.C., and ruined both sides, and a comfortless "age of wanderings," stories of which are embodied in the "Tale of Odysseus"

In the Achaean Confederacy, "Golden Mycenae" is once more the premier state, and its king, Agamemnon, its paramount chief. Like his brother, Menelaus, who is king in Sparta, he has married the heiress of the previous dynasty, Clytemnestra, and has trouble enough with her as well as with her rich inheritance.

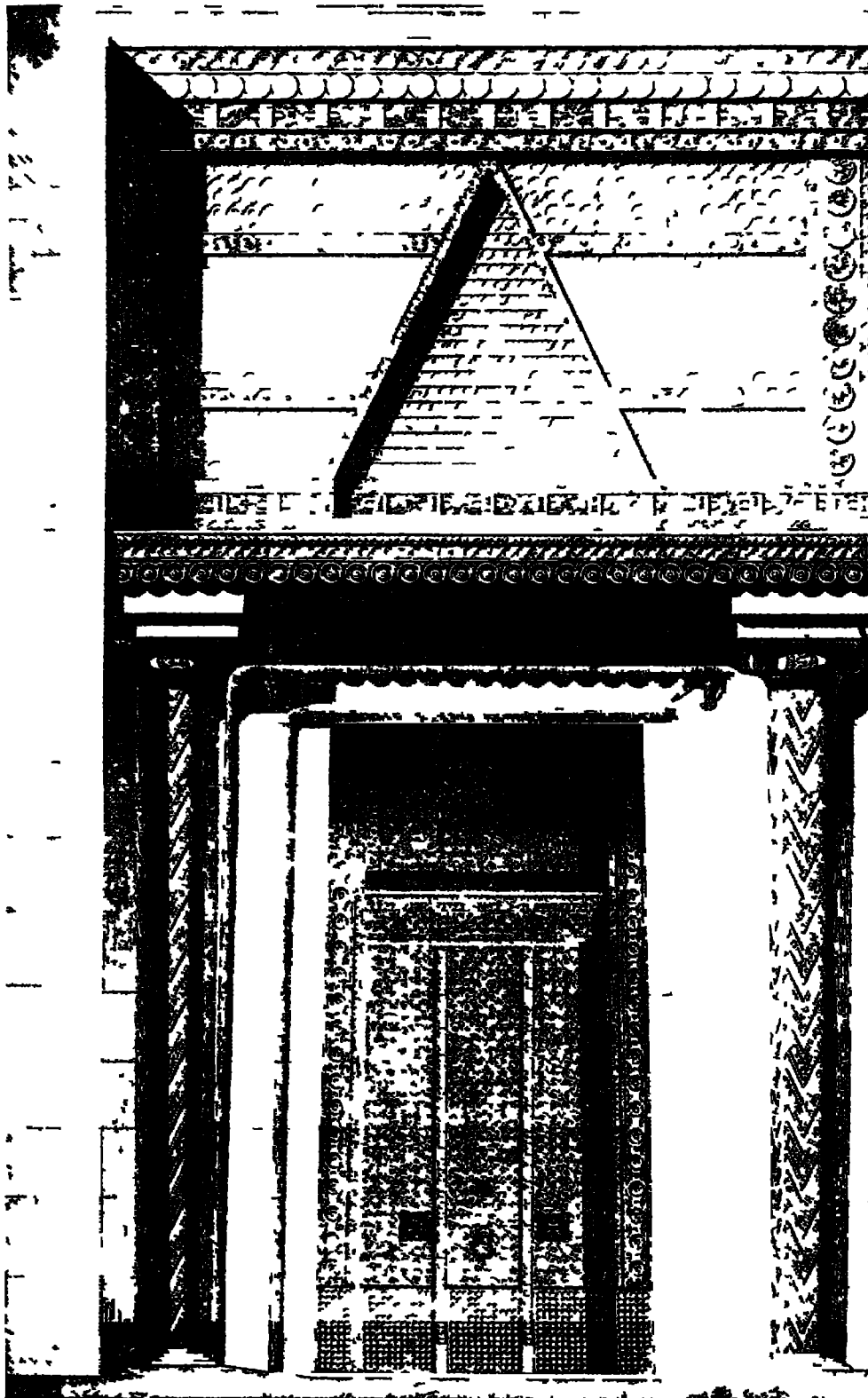
Listen to Menelaus' invitation to the son of the lost Odysseus: "If you find him, I will soon sack



FACADE AND PORTAL OF THE PALACE WHEN MYCENAE WAS A POWER

The palace that crowned the Mycenaean citadel bears, as far as can be judged from the existing foundations, strong resemblances to those at Troy and Cnossus, although not on the same scale of magnificence as the latter. Certain descriptions in Homer seem applicable to this class of building, but otherwise it is quite unlike the domestic architecture of classical Greece. Discoveries among its ruins, as well as analogies drawn from the similar decorations of some of the tombs, have enabled this reconstruction of its appearance during the second Mycenaean epoch to be made.

After a reconstruction by Ch. Chipiez



DOORWAY OF THE "TREASURY OF ATREUS" AS IT WAS

This is a reconstruction of the doorway of the "Treasury of Atreus," the only tomb of its kind at Mycenae whose cupola is still intact, it should be compared with the photograph in the opposite page, which gives its present appearance from the same point of view. Notice the sumptuous decoration which is lavished on it, and for which there is ample evidence—blue enamel, copper rosettes, painting on stucco, and so forth, all as different as it possibly could be from the classical art that we know as Greek.

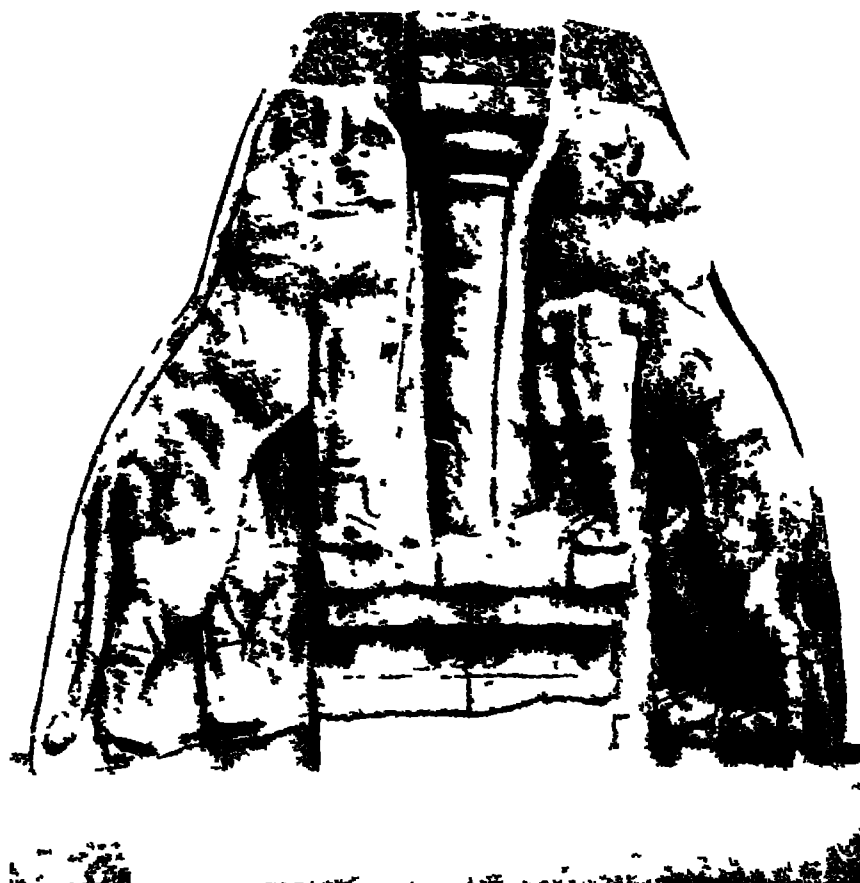
After a restoration by Dr. Higgins



THE DOORWAY AS CLEARED FROM THE RUBBISH OF CENTURIES

The unusual construction of the doorway of the "beehive" tombs is better shown in this photograph of the outside of the "Treasury of Atreus" than in the plan in page 863. It will be observed that above the lintel of the door a triangular space is left, now empty, but shown closed with a purely ornamental slab in the reconstruction on the opposite page. Its purpose was, of course, to relieve the long lintel of the weight of the superimposed masonry, which might otherwise have cracked it.

Photo by the Autotype Co.



LION GUARDIANS OF MYCENAE'S CITY GATE

Nothing takes us farther from the atmosphere of classical Greece than this graven monolithic slab above the principal gateway of Mycenae, not so much by the quality of its workmanship as by the attitude which it represents. It represents two lions with their forepaws on an elliptical base, a pillar, and it is not the lions but the pillar which is the important feature for the history of the monument. The lions are round the Mycenaeans till the Greeks came, and under the attack of the Persians or the Romans the lions were removed and the pillar was left standing. The lions are really the real guardians of the pillar.

From the Lion Guardians of Mycenae's City Gate

a town or so, and make a place for him and all his folk.' That is the language, not of ancient nobility, but of a Northman or Frankish adventurer and the common folk count for as little in war (if we may believe the Homeric poems relating to this epoch) as they evidently did in peace.

To such adventurers we can hardly attribute the "all glorious frontage" of Menelaus' palace in Sparta, nor the "divine workmanship" of furniture or armour in these recitals, rather, they are last glimpses of ravaged splendour treasured

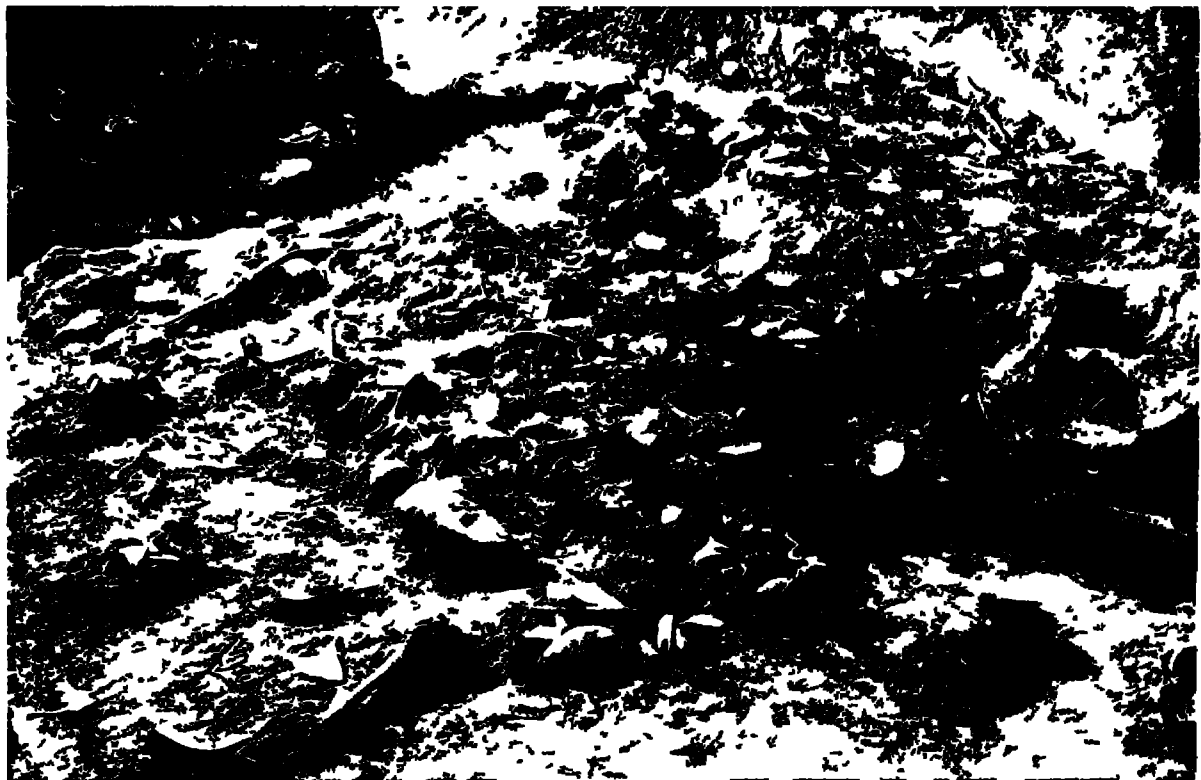
by court minstrels in reciting stock passages of descriptive verse as their masters inherited the splendid palaces with all their other loot.

One last change of fortune for which Greek tradition is now our only voucher (though excavation at Sparta and on Argive sites begin to confirm it in outline) transfers all that was left of Mycenae to its eventual occupants the invading Dorians out of northern Greece. In Argolis their political headquarters are not at Mycenae at all but at Argos a larger and more dominant position on the further side of the plain and nearer the coast. Mycenae though it remained in occupation and had a Greek temple on the very site of the old palace became a village a township at most. Its political independence ended in a disastrous quarrel with Argos before the middle of the fifth century B.C., and when Thucydides wrote his retrospect of early Greece at the close of that century he could illustrate the discrepancy between legend and actual remains by no more convincing example than this that Mycenae was small, or if any township of that age

now seems unimportant would be insufficient evidence for doubting so large an enterprise as the poets have recounted and reason confirms.

Sic transit gloria mundi

With the foregoing account of Mycenae should be compared the description of the Palace of Knossos in pages 711 to 726 of this work for the civilization of Mycenae was mainly a colonial offshoot of that of Knossos, though the decorative art, in particular, developed in some respects along an independent line of its own.



SOUTHERN STAIRCASE OF MYCENAE'S PALACE, AND A GRAVE AT ASINE

Above Where the ground was steepest beneath the southern wall of the palace at Mycenae, a noble flight of steps, 7 feet 10 inches broad, ascended probably to the courtyard above, but its exact point of entry is difficult to determine owing to a landslide that has left only twenty steps. Below An opened tomb at Asine south east of Nauplia a reproduction on a smaller scale of the empty graves at Mycenae. It is strewn with pottery and bones, and in the background is the entrance

Photos by permission of the British School of Archaeology at Athens and of the Society for the Promotion of Hellenic Studies



WHERE THE MOST INFAMOUS OF ROME'S EMPERORS HELD HIS FEASTS

Modern conceptions of the Emperor Nero are practically all condemnatory, they portray him (and also Tiberius) as a tyrant of the worst type and one is apt to forget his good deeds. Nevertheless one cannot deny his human touches and his murder of his mother. Above are two apsed halls of the Golden House probably dining rooms where some of his wild orgies took place, the upper one was used in winter and the lower one, in which traces of decoration can still be seen in the apse, in summer.

Photos by Allnart

The Royal Palaces. IX.

Nero's Golden House at Rome

By Thomas Ashby, D.Litt.

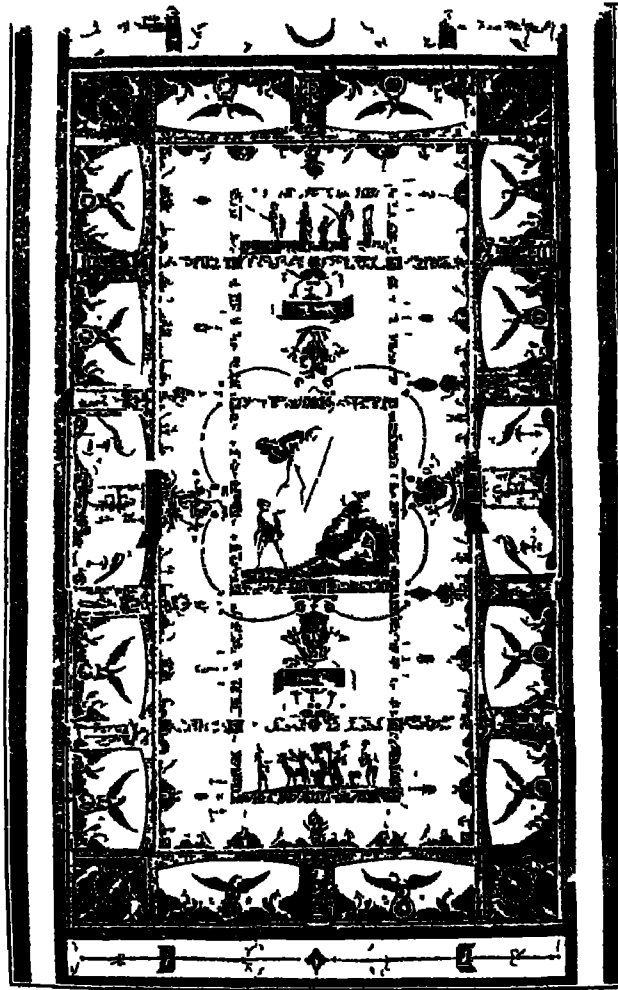
Formerly Director, British School at Rome

THE Golden House of Nero was proverbial among Nero's contemporaries for its enormous size and for the great extent of ground that it covered. And yet the original idea of Nero was simply to connect the imperial palaces on the Palatine with the extensive gardens on the Esquiline which, beginning with the gardens of Maecenas who left them to Augustus, had in one way or another become part of the Imperial domain. The connecting link was to have been a mere passage—the "domus transitoria" it was called; we do not know how much progress was made with the work, but it was the fire of July 18, A.D. 64, that destroyed it, and thus gave Nero the opportunity of enlarging his scheme. One of the two palaces on the Palatine, that erected by Claudius on the southern summit, if not both lay in ruins. Whoever was responsible for the fire, it certainly gave the Emperor the opportunity which he wanted, though it has recently been pointed out that if it was the work of incendiaries, even if they were suborned by Nero himself in order to incriminate the Christians, a full moon night, as July 18 has been calculated to be, was the worst possible occasion to have chosen. But in any case, Nero was only too

glad to use the Christians as scapegoats and subjected them to the cruellest tortures. Tacitus' account is too well known to need repetition here, and it is rather our task to see what use Nero made of the chance that presented itself.

As we have seen, what struck the ancient writers most was the enormous size of the Golden House,

of which Tacitus speaks as if it occupied more than half the city, while Suetonius quotes an epigram which runs: "Rome is becoming one house, off with you to Veii, Quirites!—if that house does not soon seize upon Veii as well." Rhetorical exaggeration apart, it did actually occupy an area spreading over parts of the Palatine, the Velia, the Esquiline and the Caelian, and over the low ground between these hills. It has been calculated, indeed, that it extended over nearly double the space which is now taken up by the Vatican palace and garden and St. Peter's, including the Piazza. An American archaeologist, Miss E. B. Van Deman, has pointed out that the approach to it was formed by a series of great colonnades which began in the neighbourhood of the Basilica Aemilia and the Temple of Vesta, and ran right up on each side of the Sacra Via to the ridge of the Velia, which connects



MYTHOLOGICAL SCENE IN NERO'S GOLDEN HOUSE. Though long obscured by damp and soot from torches, the decorations of Nero's Palace have to some extent been preserved in copies by artists of later days. This photograph is of a print made in 1776 showing one of the intricately painted ceilings.
Photo from Dr. Ashby



SEA-SHELL DECORATIONS IN NERO'S CONSERVATORY

When Nero, profiting by the more than tortuous conflagration of A.D. 64, was able to give full rein to his gargantuan schemes for a splendid palace in the heart of Rome, he built without scruple over the remains of previous great buildings, so in later days did other emperors without compunction pillage his Golden House. Above is shown the 'Nymphaeum' or conservatory an offshoot of the main building discovered when the new street, the Via dei Serpenti, was being constructed, and partly obscured by its embankment. The walls are adorned with sea shells and have niches that once held statues.

Photo from Dr. Ashby

the Palatine and the Esquiline. Only the massive concrete foundations of this building can now be traced but they are sufficient to show that it was to Nero that the whole of this part of the course of the Sacra Via which lies just outside the Roman Forum proper and the buildings on each side of it owe their orientation and arrangement.

The Sacred Way was thus made to lead up to the vestibule of the Golden House situated on the Velia and beyond this point it became a private road along which in Nero's day no traffic was permitted. The centre of the vestibule is marked, more or less, by the façade of the church of S. Francesca Romana, formerly known as S. Maria Nova, erected on the platform of the twin temple of Venus and Rome built by Hadrian in A.D. 121. The massive platform of Hadrian's temple has so completely blotted out the remains of the vestibule of the Golden House that nothing can be said of its original form. An ancient writer (Suetonius) tells us that in the centre stood the colossal statue of Nero himself, 120 feet high.

From the Velia a branch road ascended to the Palatine, but here we have but little trace of Nero's activity. His fire had laid waste the Palace of Claudius on the south-eastern summit and he seems only to have begun its restoration, while that of Tiberius and Caligula on the north-west summit, though it may not have been burnt down until the fire of Titus in A.D. 80 was not apparently included in Nero's main scheme at all. He turned his attention indeed in a different direction, and placed his main palace on the Mons Oppius one of the outlying spurs of the Esquiline. Here he caused to be erected by his architects, whose names, Severus and Celer (they were doubtless imperial slaves), are known to us, a palace which for luxury outdid all its predecessors. We also know the name of the painter who no doubt with the help of numerous assistants, executed the pictorial decoration. Pliny tells us that "not long ago lived Fabullus, whose style was lively, while dignified and severe. He painted only a few hours a day, and that with dignity, for he always wore a toga, even on a scaffolding."

The Golden House was the prison of his art, and for that reason very few other works of his exist." The greater part of it is still preserved to us under what have recently been ascertained to be the Baths of Trajan. Previous to 1895 they were always known as the baths of Titus, but in that year Lanciani discovered a plan by Palladio of the real Baths of Titus—a much smaller building immediately opposite the Colosseum.

The remains of the main palace of the Golden House have been known since the early Renaissance, when the paintings which decorated them were studied by the artists of the time. We have the actual signatures of many of these, among them perhaps that of Pinturicchio, certainly that of Giovanni da Udine, the assistant of Raphael, in the Loggie of the Vatican, the Villa Farnesina and the Villa Madama. Vasari indeed

tells us, in his life of Giovanni, that he was one of the first to visit, with Raphael, some newly discovered rooms belonging to the Golden House, and that after repeated visits he discovered the composition of the stucco of the ancients, and Raphael was so delighted that he entrusted Giovanni with the decoration in stucco of the vaulting of the Loggie, on which he was then engaged. There is, indeed, no doubt that the decorations of the Loggie owe much to those of the Golden House.

From the fact that these ancient paintings (all of them on a small scale, with little figures either painted or in stucco relief, often with stucco framing) were found in rooms or grottoes as they then seemed to be buried deep underground, they were known as "grottesche," and as the subjects and the treatment of these little scenes were alike



SUBTERRANEAN MASONRY OF A GREAT EMPEROR'S PLEASURE IN THE CENTRE OF ROME

Tacitus, the great Roman historian, employs the sharp reproof of his trenchant pen to describe the far-spreading buildings which Nero raised, and speaks of the "tiled fields and rural solitudes" of the gardens. In these gardens stood colonnades, the arched substructure of one of which is shown; only that part of the walls in the immediate foreground belongs to Nero's Palace—the rest is part of the later Baths of Trajan, until recently known as the Baths of Titus. In the centre background is a fountain.

Photo by Allinari



THE ENDURING MASONRY OF NERO'S HOME

Situated in the west wing of Nero's Palace the dining rooms illustrated in page 974 formerly opened on one side to the interior walled garden and on the other (outer) side on a colonnaded court of which it is illustrated above. In the foreground is all that remains of one of the columns and plaster is observed still adhering to the walls of the inner room.

Photo by Alinari

fantastic, the word "grotesque" acquired its modern meaning.

These rooms were visited at intervals during the succeeding centuries, but then rather by antiquaries and painters who were interested more in the paintings themselves as archaeological documents than for any practical use that they could make of them in their own works. A certain amount of excavation was undertaken, and in 1811-14 a considerable portion of the rooms—the whole west wing, in fact—was cleared down to the floor level. Nothing of great importance was

found, except the paintings on the ceilings and on the upper part of the walls; the marble dados and pavements had already been removed in ancient times. The rest was left much as it was and regarded, indeed, as inaccessible until in 1907 a young German archaeologist, Herr Fritz Weege, was shown the way in by one of the caretakers and investigated all the rooms that were still accessible, publishing his results in 1913. Since then the Italian authorities have been excavating a number of these rooms and some others as well, but no account of the work that they have done is as yet available.

The plan of the palace is not that which is familiar to us in Rome. The central portion is built in the shape of the Greek letter " π ," the two sides being inclined to one another so as to enclose a trapezoidal court, in the centre of which there must have been a fountain or a garden. The façades were decorated with colonnades which rose higher in the centre, where there was a large rectangular room round

which the others were grouped and on which special emphasis was laid. It has been pointed out that there is a very great similarity between this building and some of the Roman villas represented in the landscapes which decorated the houses of Pompeii, and which may still be seen among the paintings now preserved in the Naples Museum. Villas on a similar plan have been found, if not as yet elsewhere in Italy itself, at any rate in other parts of the Roman world.

On each side of the central portion was a wing of disproportionate size. The west wing which,

as we have seen, has been in part excavated has traces of the colonnade in front of it still preserved. Upon it opened a row of long and comparatively narrow rooms, each divided into two parts by niches, so as to serve as dining rooms for summer or winter, according to the season. These rooms were very high (over 30 feet) in proportion to their size, and were probably lighted in the main from the roof, not from the portico, above which they rose to a considerable height. They opened at the back upon a garden with a fountain in the centre, the long back wall of which was painted, probably to represent trees and plants. Behind this wall ran a lofty narrow passage, once decorated with paintings which have now almost entirely disappeared owing to the combined effects of damp and the smoke of tapers. In some other rooms they are a little better preserved, though not so well as when they were drawn and engraved over a century ago. Even in their original condition they must have been very difficult to see because of the smallness of the scale adopted and the elaborate patterns of the design. It is indeed not altogether easy to understand why the Roman painters did not make a better use of the space at their command. A comparison between the paintings of the "columbaria" (small chambers for urn burial of the early Empire) and those of the Golden House seems to show that the smallness of these sepulchral paintings, which were well enough adapted for the decoration of little chambers with their tiny niches, was imitated by the artists of the time of Nero in the decoration of the

lofty rooms of which they were fond, where, however, it was most unsuitable.

In the eastern wing which has not yet been entirely investigated we may suppose another central garden, as in the west wing. There is a long underground passage at the back, a cryptoporticus, the ceiling of which is entirely covered with paintings which have been carefully copied by Herr Weege's artist (there are a few small fragments of it at the British Museum which are very well preserved, the original gilding being still recognizable). There are also paintings in several of the other rooms. One of the ceilings has been known as the "volta dorata" (the golden ceiling) ever since the fifteenth century.

In another room is the well known picture which has always been supposed to represent Coriolanus and his mother, but really shows Hector taking leave of Andromache. In this room the famous group of the Laocoon was found in 1506, and here Pliny must have seen it in A.D. 79. Why it was walled up in this room (perhaps in Trajan's time) and not removed to some other building of Imperial Rome is not easy to understand, but this may well have saved the group from destruction at the hands of iconoclasts or lime burners. So huge was the whole palace, we are told, that it contained a triple portico a mile long. The extent of it was certainly by far greater than what is now visible, and may indeed be fixed, to some extent, by the position of the great water reservoir, known as the "Sette Sale," which originally belonged to it but was later made to serve Trajan's baths.



GARDEN FOUNTAIN OF THE GOLDEN HOUSE OF NERO

It is known from contemporary authors that much labour was spent by the Emperor and his architects in the design of the gardens of his magnificent house in Rome. The wall in the background enclosed part of his garden, but the vaulted side walls belong to the great baths later built on the same site by Trajan. In the foreground is the basin of a fountain that once played there when the place was a shady grove planted with trees and flowers for the Emperor's delight.

Photo by Altinari

This would give a building about the length of the Vatican and double the breadth.

But the palace itself is by no means all; indeed, Tacitus was more impressed by Nero's reckless expenditure, considering the enormously high prices of land in the centre of the city, in securing for himself a huge park which extended, as we have seen, over a very large area. He says:

Nero made use of a disaster to his country to build himself a palace, in which the marvel was not so much the jewels and gold with which it was decorated (these had long been a mere vulgar luxury) as the tilled fields and lakes and rural solitudes—here woods, there open country and wide views.

And Suetonius says much the same:

It was so extensive that it had a triple colonnade a mile long [probably intended for taking a constitutional, like the so-called *Polikile* at Hadrian's Villa]. There was a pond too, like a sea and surrounded with buildings to represent cities, besides tracts of country varied by tilled fields, vineyards, pastures and woods with great numbers of wild and domestic animals.

There was moreover a number of smaller detached buildings in the park, just as at Hadrian's Villa. Close to the Basilica of Constantine lie some remains now covered by a garden which once formed a part of it, and not far off the construction of a new street (the "*Via dei Serpenti*") led to the discovery of a small "*nymphaeum*" (or conservatory as we might call it) adorned with niches for statues and no doubt with fountains also, and decorated with sea-shells. Then, we are told, Nero almost destroyed the Temple of Claudius which was in course of construction on the Caelian Hill; and on its site, no doubt, there rested one of the minor buildings in his great domain.

His death in A.D. 69 left the building incomplete, and Otho set aside a large sum—nearly half a million pounds—to finish it; while gossip says that Vitellius and his wife ridiculed it as badly built and lacking in comfort.

But Vespasian, who came to the throne in the next year, saw clearly how unpopular, especially among the poor, the Golden House had been, and he and his successors vied with one another in restoring its site to public uses. He himself at once began by draining the great lake and erecting the Colosseum on its site, thereby cutting the heart out of the park and restoring the streets of the whole quarter to public uses once more.

The ancient authors, and especially Martial, are full of allusions to this: "Rome is restored to its old self once more." The statues which Nero had collected from all over the city were dedicated anew in the Temple of Peace, erected in the centre of the Forum of Peace to celebrate Vespasian's

Jewish victories and the restoration of peace to the Empire, while the colossal statue of Nero which stood in the vestibule of the Golden House was transformed into an Apollo, and the temple of Claudius was completed on the Caelian Hill.

Titus in his short reign found time to erect some baths opposite the Colosseum, remains of which were brought to light in 1895. But a fire which occurred in his reign and destroyed the remainder of the Imperial Palace on the Palatine rendered it necessary for him to use a part of the Golden House as his palace, and his younger brother and successor, Domitian, was entirely occupied in rebuilding the edifices on the Palatine Hill, which he thoroughly reconstructed. His work was hardly finished when a fire, in A.D. 104, destroyed the Golden House and hastened Trajan's intention of constructing on the site his huge "*thermae*" from the plans of his architect, Apollodorus of Damascus. The openings were walled up; the rooms stripped of their marble decorations (not of their paintings) and filled with rubbish to the roof, and rendered inaccessible. Not even the original plan was respected, for the baths lay at an angle of sixty degrees to the older building, so that they might face south-west. Finally Hadrian, in A.D. 121, destroyed the vestibule and erected his double Temple of Venus and Rome on its site, moving the colossal statue nearer the Colosseum. Twenty-four elephants were used to transport it, and the work was done without its being necessary to tilt the statue. It was decorated with the sun's rays and stood there, where its pedestal still stands, at least until A.D. 354, when a festival was held and the statue was crowned with a garland. Then it disappeared—perhaps it was melted down when Totila and his Goths plundered Rome in the sixth century.

But though it went, and the Golden House had gone long before it, the name of Nero and his wickedness and his great Palace were famed throughout the Middle Ages. There are few legends in Rome and in the Campagna, but Nero is the centre of many of them. His ghost haunted the tower near the "*Porta del Popolo*" under the Pincian Hill where was the tomb of his family, the Domitii, in which he was buried. Near there, according to medieval legend, was one of his palaces, but he had many more. The name Lateran was derived from "*lateo*" and "*rana*" because there the frog lay hid to which Nero gave birth! He was considered a magician and as such, and as a persecutor of the Christians, handed down to eternal execration while other emperors not perhaps less wicked, though hardly so extravagantly insane, have fallen into oblivion.

Temples of the Gods. XIX.

The Early Shrines of Buddhism

By F. Deaville Walker

Author of "India and Her Peoples"

Illustrated by 16 photographs specially taken by the Author

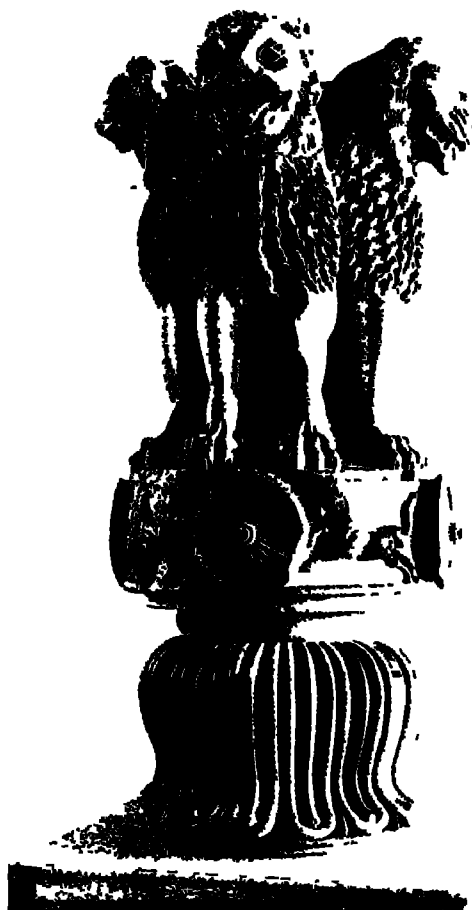
TWO points here call for note. In the first place, Gautama Buddha is not a "god," and, in the second, stupas are not exactly temples; but the educated modern Buddhist as well as the general reader will readily understand that, in such a work as this, for the convenience of editorial arrangement, the sectional headings, such as "Temples of the Gods," must be somewhat arbitrary.—EDITOR.

NORTH India is to the Buddhist what Palestine is to the Christian, and Arabia to the Moslem. Every year pilgrims from all Buddhist lands journey to India to visit the sacred shrines that mark the scenes of Buddha's life and work. Siddhartha Gautama, the founder of Buddhism, was born in the sixth century B.C. in the garden of Lumbini, within sight of the majestic snowy peaks of the Himalayas. In the forests of Gaya, in the modern province of Bihar, he attained Buddhahood. At Sarnath, near Benares, he delivered his first great discourse. For forty-five years he travelled through the plains of North India and the valleys of Nepal, preaching his gospel, and at Kusinara (the modern Kasia, in the Gorakhpur District) he died about the year 478 B.C. at the age of eighty. After the custom of his people, his body was burned. The ashes of that funeral pyre were divided into eight portions and distributed among the neighbouring clans and kingdoms, and "stupas" (large dome-shaped relic shrines) were built over these remains of the great teacher.

Little more than two centuries after the death of Buddha there came to the throne of the ancient

Indian kingdom of Magadha one of the best and ablest monarchs who ever controlled the destinies of India—Asoka the Great. His empire extended from the Himalayas and Afghanistan in the north, to the Pennar river in the south. In the ninth

year of his reign he became a devoted follower of the Buddha, and earnestly strove to rule his kingdom according to the precepts of his master. It is no exaggeration to speak of him as the Constantine of Buddhism. From his palace at Pataliputra (the modern Patna, on the Ganges) Asoka issued one of the most extraordinary series of edicts ever composed by a monarch. They deal with the organization of the empire, with morals, and with religion. It was Asoka's custom to have these edicts graven upon polished surfaces of rocks so that they might be visible to all. In the plains, where no rocks were available, he caused high pillars to be erected, upon the polished shafts of which the edicts were incised. These edicts were strewn over the whole of his empire. Ten of the pillars are known to us, although most of them are more or less broken. Each was cut from one block of stone averaging 40 feet to 50 feet



INDIAN SCULPTURE AT ITS BEST

Among the ruins of Sarnath were found fragments of a monolith pillar erected by Asoka in the third century B.C. It originally stood about 50 feet high and was surmounted by this magnificently carved capital, so highly polished that it could easily be mistaken for marble.



TERRACE OF THE GREAT TEMPLE OF BUDDH GAYA

The terrace is flanked by the temple and has at each corner a pagoda exactly like the one seen in the picture. The left ornaments to the right are devotional stupas. The left is a stupa to commemorate their visit. They are all round the terrace.

high a graceful highly polished column of first class workmanship with a beautiful capital surmounted with one or more lions

To Asoka and his masons we are indebted for much of our knowledge concerning the life of Buddha. Our only clue to the exact place and date of his birth for example is due to the fact that Asoka caused a pillar to be erected on the spot. This was discovered in 1896 and bears an almost perfect inscription recording Asoka's visit.

It was evidently the devout purpose of the great emperor to mark with a permanent memorial the site of each of the four most sacred events in Buddha's life—his Birth his Enlightenment, his

First Sermon, and his Death. With the passage of centuries Asoka's empire waned and broke up. Buddhism was driven from the land of its birth, but Asoka's memorials remain, and are still visited by Buddhist pilgrims from afar. Glorious even in decay, they stand as proud if to the Western visitor pathetic and solitary, survivals of the great past. Let us in thought, and by the aid of the camera visit a few of them.

More than five hundred years before Christ, Gautama made his great renunciation. Leaving everything he possessed, home and wealth, wife and infant son, he went into the jungles, and for several years sought, first by meditation, and later by self-torture, to solve the problem of human existence and human suffering. But neither the quiet concentration of thought nor the severe mortification of his earthly nature produced the calm he longed for. After seven years of fruitless search, the lonely recluse was sitting beneath a bo-tree at Gaya, wrapt in thought, when after a severe mental struggle his mind became restful and "cool" and he discovered what he believed to be the cause and cure of suffering. In that hour he became "the Buddha"—the Enlightened One. The bo-tree (wild fig) became famous, and long before the time of Asoka it was an object of devotion.

Asoka's reverence for the tree at Gaya was such that he built a memorial shrine beside it. This

was afterwards succeeded by a larger temple, the Buddh Gaya on the same spot, the date of which is very uncertain, some authorities suggest the sixth century A.D., but others are inclined to throw it back to the first century B.C. Certainly it was seen and examined by a famous Chinese traveller, Hsuen Tsiang who visited India as a Buddhist pilgrim in A.D. 640, and the dimensions he gives correspond with those of the present structure. Fifty years ago the whole building was in a very decayed condition and was rather drastically "restored," the main features, however, being carefully preserved.

Very impressive is this great brick temple,



MOST SACRED SPOT IN THE BUDDHIST WORLD, BUDDH-GAYA AMID ITS GARDENS

The great temple of Buddh-Gaya marks the birthplace of Buddhism, where, five centuries before Christ, Gautama became the Buddha. The Emperor Asoka built a shrine to mark the sacred place, and at a later date the present temple was built. There is no other temple like it in all India and the visitor is immediately impressed by its graceful and dignified form against the blue sky. It is best seen in the evening when the setting sun lights up its pink walls till they seem to glow with hidden fire.

rising in nine diminishing storeys like a tall pyramid to a height of 160 feet. Its lowest storey forms an imposing terrace around the base, and has a smaller pagoda at each corner. No other temple in any part of India is at all like it. Its exterior is decorated, but not carved, yet its outline is graceful and harmonious. Within is a dark, cave-like chamber in which lamps burn continually before a more than life sized image of Buddha. The figure is tawdrily draped and decked with glittering ornaments, and large prayer flags are festooned around. But this is not the work of Buddhists. Hundreds of years ago the Hindus claimed Buddha as the ninth incarnation of their god Vishnu, and some years ago the Vishnava priests of a neighbouring Hindu monastery turned this ancient Buddhist memorial into a Vishnu temple. They have even gone so far as to paint the sacred V-shaped mark of Vishnu on Buddha's

forehead. Thus this great temple that marks the most sacred spot in the Buddhist world has become the shrine of a faith against which his teaching was a revolt. Around it, at a distance of a few yards, are the broken remains of a very beautiful stone railing built around the original shrine about a century after Asoka's time. It is the finest bit of workmanship about the place, and is one of the most ancient sculptured monuments in India. The grounds are crowded with finely-carved stone shrines and other ancient remains—a paradise for archæologist and artist.

Just behind the great temple, surrounded by a brick platform, is a large bo-tree, said to mark the spot where the great teacher received enlightenment. There is reason to suppose that the present tree is a lineal descendent of the original one under whose shade Buddha sat on that memorable night twenty-four centuries ago. As we lingered near

that spot, deep in thought, a Buddhist pilgrim from afar came and knelt beside the tree. Then a dozen Tibetans, who, like Kim's old Lama, had tramped over the passes of the Himalayas to visit the sacred places of their faith, glided noiselessly past in single file, round and round and round the shrine. Their heads were bowed, and in their hands they turned their little brass prayer wheels with their strange, pathetic invocation: "Om! Mani Padmi, Om!" (O! the Flower of the Lotus, O!) We watched as they proceeded round and round the temple, within the old processional path marked out by the ancient rail—the path trodden for over two millenniums by countless myriads of bare feet. And we thought of the meek, self-forgotten man who once sat beneath the tree, thin and worn with years of privation, and exhausted by mental conflict, and how, just before that memorable dawn, a great calm came upon him. We recalled the words by which he recorded the experience.

My mind was released from the defilement of sensual desire.

My mind was released from the defilement of earthly existence.

My mind was released from the defilement of heresy.

My mind was released from the defilement of ignorance.

In the emancipated arose the knowledge "I am emancipated."



INMOST SACRED CHAMBER OF BUDDH-GAYA TEMPLE

Though the temple is so large, the sacred chamber is a small, dark, cell like room, with no window, and illuminated only by the dim light that comes down the narrow entrance passage. The large image of Buddha is tawdrily draped, but fifty years ago Hindu priests turned this memorial of Buddhism into a temple of their faith.



ENTRANCE TO BUDDH-GAYA, MOST HOLY TEMPLE IN THE WHOLE REALM OF BUDDHISM

The decorations of this temple cannot compare with some of the splendid stone carving on other Indian shrines. Nevertheless, it has a charm all its own. Buddhist pilgrims come from Ceylon and Tibet, Burma and Siam, and even from far distant China and Japan, to perform their devotions at this sacred place. An important part of their worship is to walk many times round the building. The large "stupa" in the foreground was probably the gift of some important pilgrim hoping to secure merit.



TREE REVERED BY BUDDHISTS FROM THE HIMALAYAS TO CEYLON

Beside the west wall of Buddh-Gaya Temple is a large bo tree, probably a direct descendant of the one under which Buddha sat in meditation at the moment of his "Enlightenment." It is the tree that occupies the right half of this photograph. In the shade beneath is a brick platform, built around the trunk, and on it may often be seen a pilgrim sitting cross-legged in the act of worship. To the Buddhist this spot is what Bethlehem is to the Christian—the birthplace of his faith.

Thus did I perceive in the last watch of the night.
Ignorance was beaten down, insight arose ;
Darkness was destroyed, the Light came,
Inasmuch as I was there, strenuous, aglow, Master of Myself.

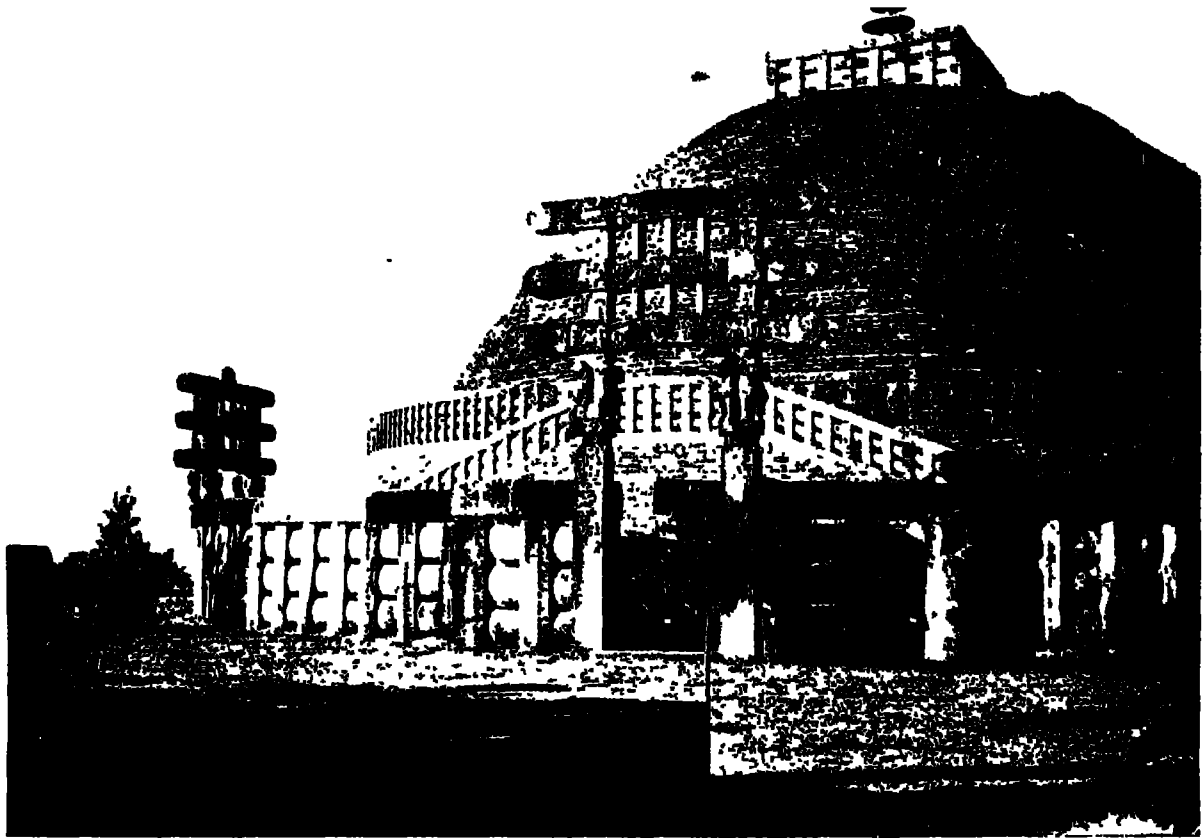
Tradition tells us that the Ruler of the Highest Heaven humbly knelt before the Buddha and begged him to preach to others the doctrines he had discovered. So, leaving Gaya, the new teacher journeyed to Benares.

In a forest known as the Deer Park, now called Sarnath, four miles north of the sacred city, Buddha found five ascetics, who for six years had been his companions in austerities and meditation. Gathering them around him, he told them of his enlightenment and of his discovery. It was his first great discourse—the Buddhist equivalent of Christ's Sermon on the Mount. In Buddhist phraseology, the great teacher "began to turn the wheel of the law." The substance of this discourse has been preserved in the Buddhist sacred writings, and what we may call the "four points" of his discussion have been also found engraved on a stone umbrella discovered at Sarnath.

The memorable scene has been described in glowing words by Buddhist poets, and as one wanders among the ruins that now cover the site,

the mind conjures up a picture of the grave teacher sitting cross-legged, with hand uplifted, discoursing to those five eager listeners on "The Foundation of the Kingdom of Righteousness," and explaining to them his "Four Noble Truths," viz. : The Noble Truth of Suffering ; the Noble Truth of the Cause of Suffering ; the Noble Truth of the Escape from Suffering ; the Noble Truth of the Way that leads to the Escape from Suffering. A passing stranger would scarcely have cast a second glance at those men quietly conversing under the trees, little dreaming that one of them was propounding doctrines that would become the faith of hundreds of millions of people.

The Emperor Asoka marked the spot with a memorial stupa of solid brickwork. Devotees crowded to the place, and monasteries for monks and nuns were built around. Among these buildings, Asoka erected one of the edict pillars with an imperial edict warning the monks and nuns against the sin of schism. "The Church," begins this inscription, "is not to be divided, and whosoever, monk or nun, shall break up the Church, shall be made to don white garments (i.e., shall be unfrocked), and dwell in the place which is not a residence for those in the Orders."



BALUSTRADE AND CARVEN GATEWAYS OF THE GREAT MEMORIAL STUPA AT SANCHI

Completed in the second century B.C., the stupa encloses one built by Asoka a century earlier. The massive stone railing and the four unique gateways were built before the dawn of the Christian era. To the right of the south gate (shown in the center) is the stump of one of the pillars on which Asoka was wont to inscribe his imperial edicts. It was once surmounted by a lion-capital similar to the one shown in page 88r. Notice the railed processional path running round the dome.

As the centuries passed, a larger stupa was built over the one Asoka had made; several large monasteries arose, and pious hands built around multitudes of small devotional stupas, ranging from less than a foot up to ten or fifteen feet in height. The Chinese pilgrims, Fa-Hiuen and Hiuen Tsiang, visited Sarnath in the fifth and seventh centuries respectively, and have left us accounts of what they saw. Hiuen Tsiang tells of more than 1,500 yellow-robed monks residing in the monasteries. But troubles soon overtook the sacred place. The terrible White Huns swept down on Sarnath, destruction marking their path. Time after time the monasteries and shrines were rebuilt, destroyed, and again rebuilt. In 1017 the Mahmud of Ghazni, the famous Mahomedan conqueror, known as the "Idol Breaker," swept like a whirlwind across North India, captured Benares, and sacked Sarnath, smashing the images of "the Blessed One" as resolutely as he broke the idols of the Hindus.

Then, in A.D. 1193, came the final catastrophe—Shihabu din Ghauri utterly destroyed the temples and religious houses. The place was left desolate,

and it remained so for seven centuries, save when some prince used it as a convenient quarry from which to get stones for a new building. Then modern explorers began to pay attention to the ruins, and, thanks chiefly to Sir John Marshall, the Director-General of Archaeology, the remains of five monasteries, several temples, and numerous shrines and stupas were unearthed.

Rising high above the ruins is all that has survived of the great stupa that marks the place of Buddha's first sermon—a mighty tower-like structure of solid brickwork, faced with stone. Its present height is over 100 feet, with an additional 40 feet below ground. The lower part is 93 feet in diameter, and the stones are fastened together with iron clamps. By careful digging into this solid mass, the remains of Asoka's stupa were found buried within. When it stood complete, it must have been a magnificent monument, covered with finely carved stonework, of which enough remains to show the original design. To-day it stands battered and desolate, a forlorn symbol of the creed it represents.

All around the great stupa lie the ruins of the



THE LOWER PROCESSIONAL PATH AT SANCHI

It will be observed that the massive stone railing bears a strong resemblance to a log fence, and it is intended to represent one. The earliest Buddhist architecture was of wood, and when the Buddhists began to build with stone, or cut out temples in rock, they imitated their wooden models. The four gateways, too, resemble wood rather than stone.

days when Sarnath was in its prime. On every hand are the more or less broken shrines and stupas. But the most interesting relic of all is the Asoka pillar. The stump of it, some 17 feet high, remains in position, while the broken fragments that lie around make it possible to estimate its original height at 50 feet. It was cut from a single block of stone, quarried more than twenty miles away and brought to this spot. It is so highly polished that it may easily be mistaken for marble, and the magnificent lion-capital, seven feet high, is the finest piece of ancient Indian sculpture that has come down to us from that

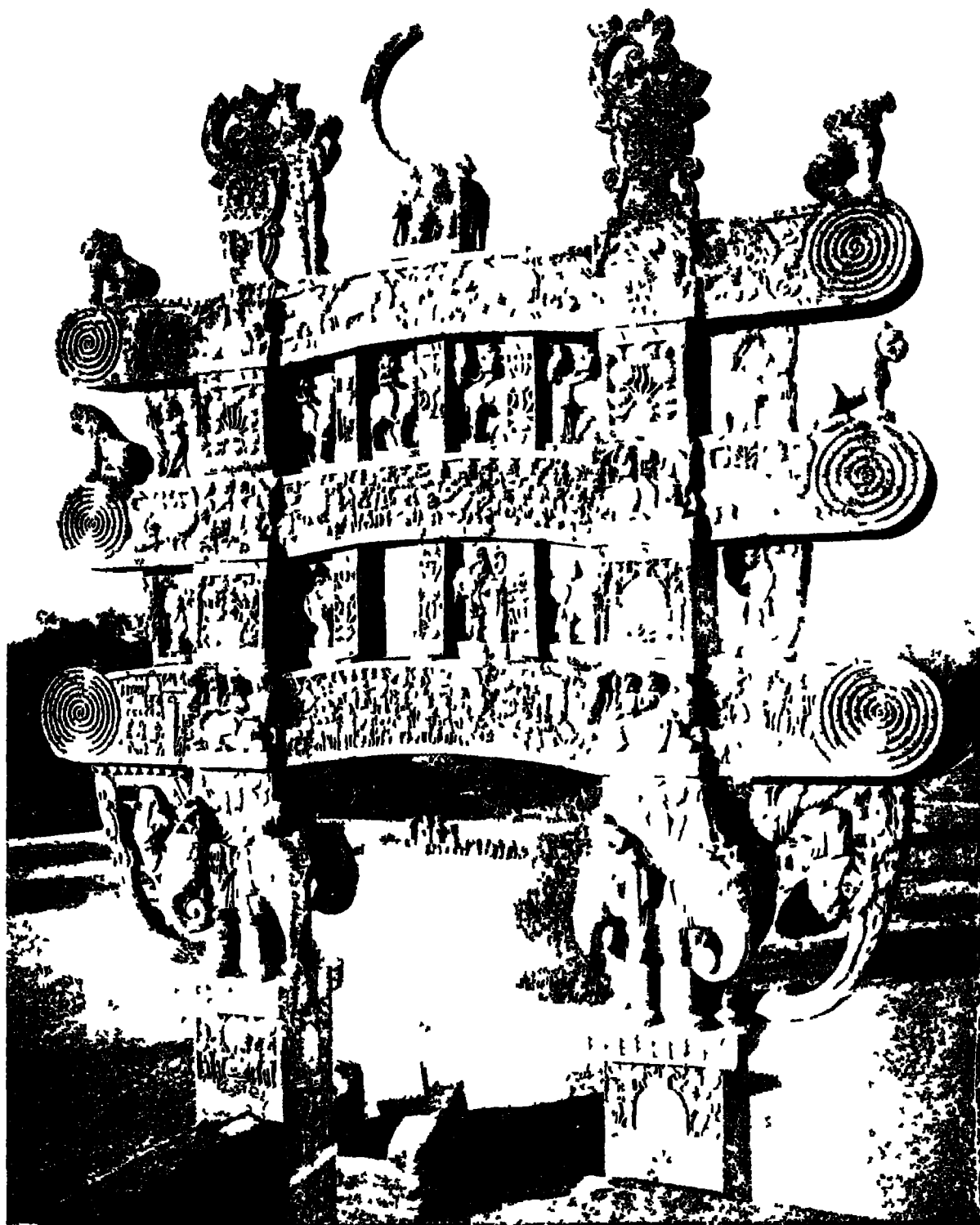
remote age. It consists of four lions, standing back to back. Originally there stood above them a large wheel—a symbol of the “Wheel of the Law” that Buddha first turned at Sarnath.

On the summit of a hill near to the village of Sanchi, in the State of Bhopal, there stands, silhouetted against the sky, what from the valley below appears to be a huge dome, with a couple of smaller ones near to it. It is one of the oldest and finest of the ancient monuments of India. There is nothing to connect Sanchi with Buddha himself, and we have no certain knowledge as to the reasons that led Asoka to build a memorial stupa and erect one of the finest edict pillars on this hill-top, but it is evident that for some cause or other the great emperor had special interest in the place.

Here on the hill-top, and visible for many miles around, Asoka raised his pillar and built his memorial stupa—a hemispherical dome of solid brickwork, half as large as the present structure. About a century later the stupa was covered with a thick encasement of stone, and brought to its present size. A massive stone railing was con-

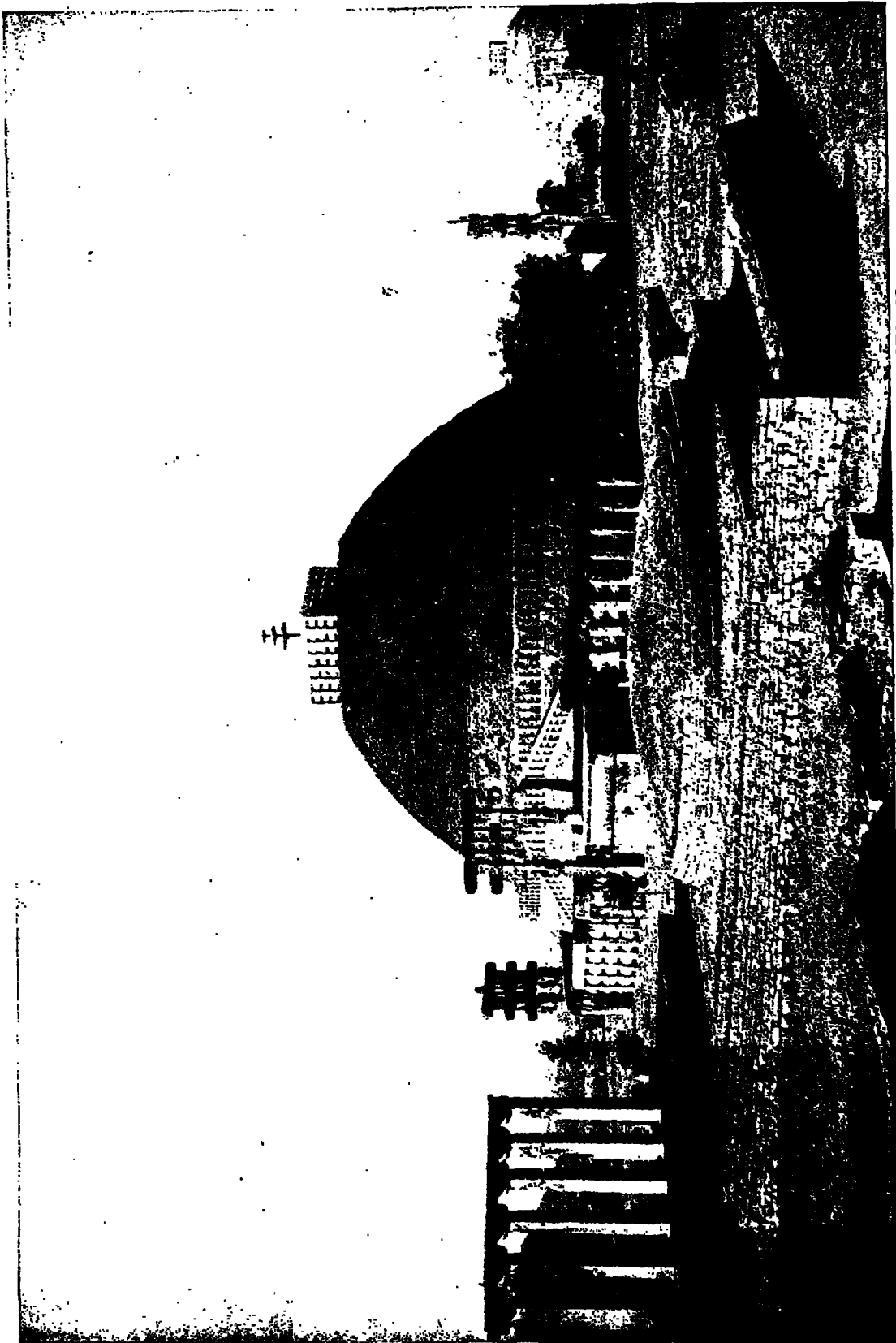
structed round the base of it, and, a little while before the dawn of the Christian era, four splendid stone gateways were added, facing the four points of the compass. In its full glory the dome was covered with fresco paintings, and the richly carved gateways were also painted.

As the centuries passed and the sanctity of the place increased, other stupas and shrines and large monastic buildings arose around, just as at Sarnath. Then came invasion, destruction, and desolation. By the nineteenth century two of the great gateways had fallen and some of their parts were badly broken. In 1882 Major Cole carefully



STONE CARVINGS ON A GATEWAY OF THE SANCHI SHRINE, NEARLY 2,000 YEARS OLD

This photograph shows the upper portion of the north gateway. The posts and crossbars are mortised together and seem as strong as ever. Much of the carving is nearly as fresh as when it was executed. In these early carvings Buddha himself is never represented save by symbols, a lotus flower symbolises his Birth, a bo tree, his Enlightenment, a wheel, his first Discourse, and a stupa, his Death (one is visible on the right pillar, between the middle and lower bar, and another below the elephants at the bottom right-hand corner of the photograph).



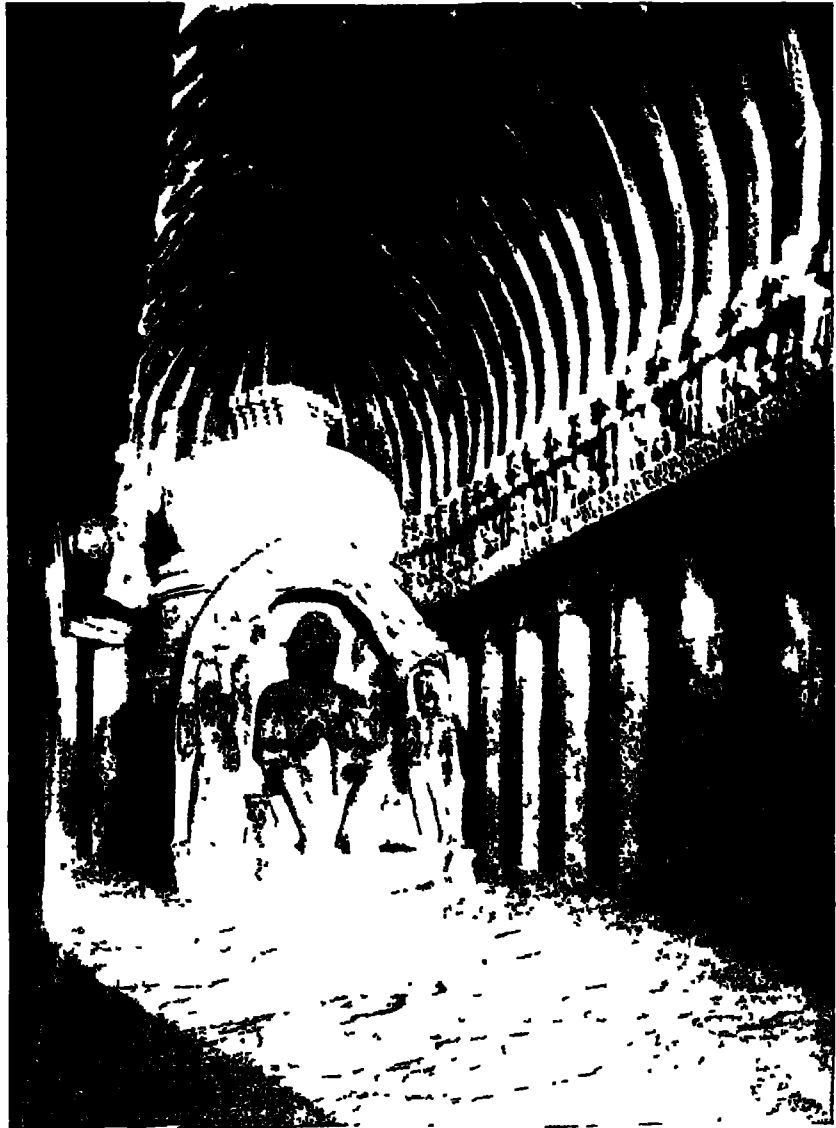
ANCIENT DOME-LIKE BUDDHIST SHRINE AT SANCHI AS IT STANDS RESTORED

On the summit of a hill in the State of Bhopal there stands, silhouetted against the sky, a huge dome, with a couple of smaller ones and numerous ruins around it. It is one of the oldest and finest of the ancient monuments of India. Thanks to the patient and scholarly labours of Sir John Marshall, the whole of these splendid ruins was thoroughly explored, and, as far as possible, restored. To-day they stand grand and imposing upon the lonely hill-top. In the foreground of the picture the base of another dome is seen. There is a great deal of uncertainty as to what these great stupas were erected to commemorate, but the spot must have been one of considerable sanctity.

raised them to their former positions, and joined the broken fragments together with such care that only an expert would know they had ever fallen. Later, thanks to the remarkable skill and unfailing patience of Sir John Marshall, the most important features were restored almost to their original condition. For about seven years (1912-19) he laboured at his great task, first cutting away the jungle and removing the vast accumulation of debris, then patiently examining every stone and restoring each one to its original position. Piece by piece Sir John found almost every bar and upright of the stone rail and of the smaller one on the top of the dome. Even the broken fragments of the stone umbrella (symbol of royalty) that surmounted the whole, were found and pieced together. Surprisingly little new stone has been introduced; yet the great stupa, with its walls and gateways, is practically as complete as it was two thousand years ago.

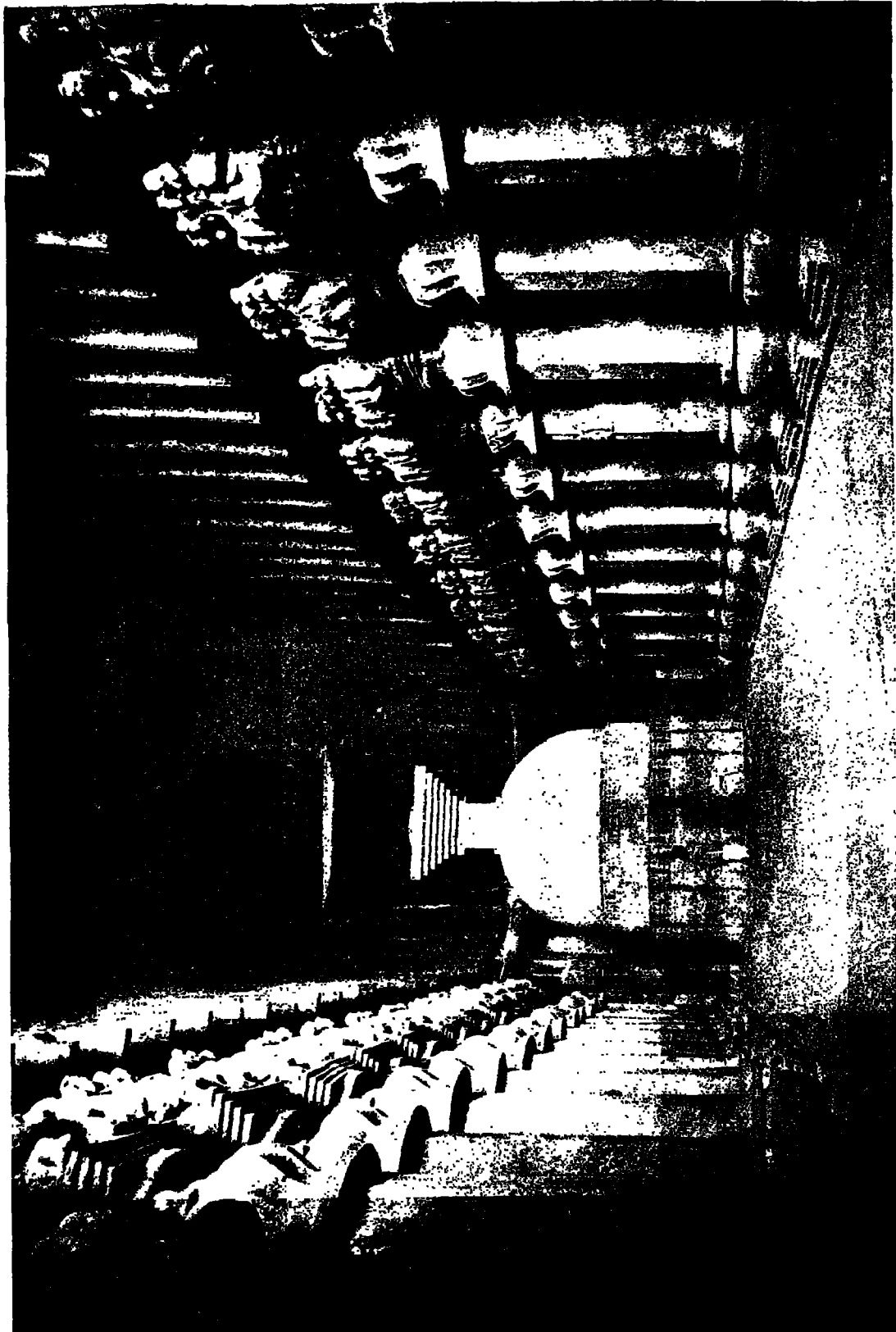
A few feet from the south gateway are the broken remains of Asoka's pillar. It was originally 42 feet high, and of finest workmanship. Many years ago it was broken by a local zemindar, that from its shaft he might make a press for crushing sugarcane. The stump still remains, and large fragments of the shaft lie on the ground near by. The sadly-broken lion-capital is carefully preserved in the small museum built by Sir John Marshall. So remarkable is the workmanship of this capital (and that of the better preserved one at Sarnath, already described) that Sir John and some other authorities believe it to be the work of a Perso-Greek sculptor in the employ of Asoka.

But the glory of Sanchi is in its four great gateways, which date from the latter part of the first century B.C. Their graceful form, the richly-carved bas-reliefs with which they are covered, and their



WHEN IDOLS SUPPLANTED THE PLAIN STUPAS OF EARLY BUDDHISM
This is a Buddhist cave-temple at Ellora (see pages 283-295) of much later date than the Karli cave illustrated on pages 892, 894, and 896. It is much smaller and not nearly so impressive. Instead of the plain symbolic stupa of early Buddhism, we find a large figure of Buddha surrounded with attendants. Though shaped like the wooden one at Karli, the roof is cut out of the rock. This temple is rededicated to Visvakarma.

great age, make them impressive beyond words. Two of them have stood unmoved throughout the ages, and the carving on all is marvellously preserved; indeed, much of it seems to be almost as fresh as when it left the hands of the sculptor two thousand years ago. The bas-reliefs, with singular richness of decorative device and symbolism, represent incidents in the life of Buddha and legends concerning his previous existences. The figure of the great master himself never appears. At that early period, while Buddhism retained much of its original purity, it was unlawful to make



INTERIOR OF THE PILLARED CAVE-TEMPLE OF KARLI, THE FINEST BUDDHIST SHRINE IN INDIA

The interior of the Karli cave is extremely impressive, being about the size of the choir of Norwich Cathedral. The splendid rock-hewn pillars—fifteen on each side, with four more at the entrance, and seven at the far end—separate the nave from a broad aisle that runs round. The roof is of wood and of the same age as the temple. The lighting is so arranged that all the direct rays fall on the stupa at the end. Two thousand years ago the pillars and stupa glowed with colours and gold, and banners hung in the great vaulted roof. Notice that there is no image of the Buddha here, and compare it with the illustration in page 89r. This is the pure simplicity of early Buddhism.



RUINS OF SARNATH, WHERE THE BUDDHA PREACHED HIS FIRST SERMON

Second only to Buddh-Gaya in sanctity is Sarnath, where Buddha delivered his first great discourse. Sitting quietly under the trees, he explained his doctrines to five ascetics who had been his companions. Asoka built a stupa to mark the spot, but it was afterwards over-built by the tower-like structure shown in this picture. It is of solid brickwork, originally faced with stone, some of which remains and shows enough of the original carving to prove that, in the day of its glory, it was very beautiful.

images, carvings, or paintings of its founder "The Blessed One" is represented by symbols: his Birth by a lotus flower, his Enlightenment by a bo-tree, his First Sermon by a wheel of the law, and his Death by a burial stupa—all of which occur repeatedly in the carvings of the four gateways. Doubtless these reliefs, and the painted frescoes that once adorned the dome, served a purpose other than that of mere decoration: they were probably used for instruction of the faithful—a system of illustrative teaching, used pretty much in the way that modern Christian missionaries

use the magic lantern as a means of teaching their people the story of the life of Christ.

No account of early Buddhist shrines could be complete without some reference to the cave temples and rock-hewn monasteries which were as characteristic as the stupas, the pillars, or the stone railings. The oldest we know of are in the Barabar hills, in Bihar; they were probably excavated by Asoka or his immediate successors. The early monks were homeless mendicants, constantly moving from place to place, preaching the doctrines of Buddha. But in the wet season such

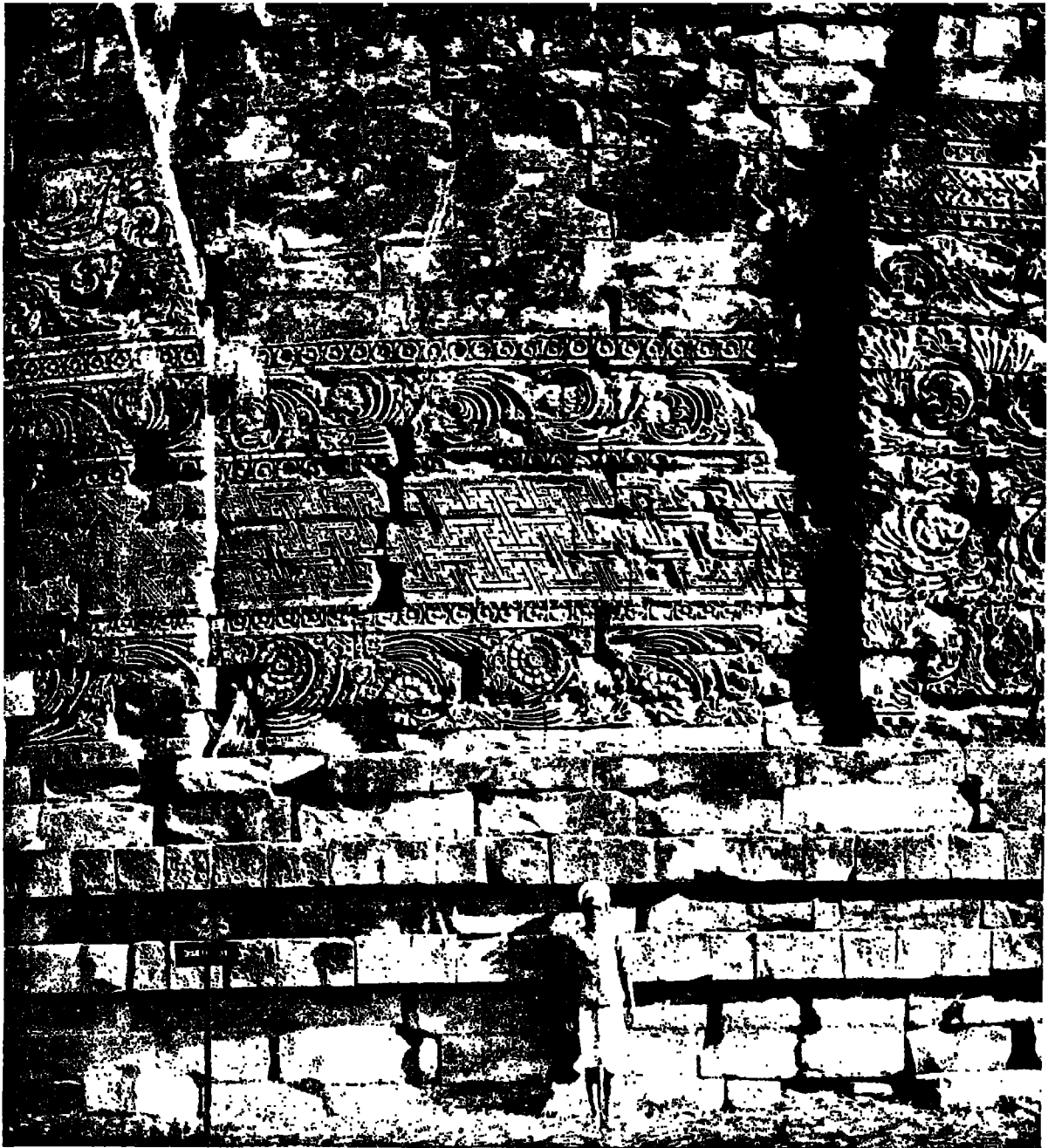
a life would be almost impossible, and it was found advisable to utilise this time by gathering the monks together to study the sacred law and discuss matters of business. Following the example of the older ascetics, they sought refuge in natural caves, and then began to adapt these caves to their purposes. Gradually rock-hewn monasteries became the fashion, with porticoes, halls, and cells for the monks. The first were very primitive, but as the masons acquired skill they attempted more ambitious schemes, such as those at Ellora (see pages 283-295) and Ajanta. Each monastery had a shrine, and in some places separate temples were excavated.

The finest and most interesting of these cave-temples is that of Karli, in the Western Ghats. It may have been at first a natural cave, used by monks as early as Asoka's time; but probably the interior was completed, practically as we see it to-day, by the first century B.C. The exterior carvings are of later date. Simple and dignified, the interior of this remarkable sanctuary represents the early age of Buddhist faith and worship. It is about the size of the choir of Norwich Cathedral. It has a well-proportioned nave (lit by a great sun-window over the entrance), with massive rock-hewn pillars, splendidly carved, separating it from a wide aisle that runs completely round. There is no image; Buddha is represented by a solid rock-hewn stupa under the dome of the apse where the high altar stands in the



THE VESTIBULE OF THE KARLI CAVE-TEMPLE

This rock-hewn screen with three doorways (two of them are shown in the photograph) was part of the original work, but the carvings are of much later date. Notice the finely carved elephants and the representation of the three barred railing (compare the photograph on page 888 where this motif also appears).



STONE CARVING ON THE GREAT STUPA AT SARNATH

This noble memorial has been terribly mutilated by successive invaders and left in a ruined condition. Around the base, however, are still traces of the beautiful design carved there in the remote past. In the early centuries A.D. hundreds of yellow-robed monks and nuns dwelt in the monasteries of Sarnath. A Chinese pilgrim, who visited the place in the seventh century, records that he found 1,500 of them. But one invader after another swept over North India till, in A.D. 1193, Sarnath was finally devastated.

choir of a Christian cathedral. A very remarkable feature is the great wooden roof. Experts are convinced that both this and the wooden umbrella that crowns the stupa are of the same age as the temple itself. Both are made of hard, enduring teak, which white ants and other insects do not touch, and as the cave is absolutely dry, there has been no damp to destroy them. There used

to be wooden galleries outside the temple, but these have long since disappeared.

When this ancient chapel was in its glory, the interior was finished with a coating of fine plaster called chunam, polished like marble and covered with paintings and gilding. Banners hung from the lofty roof, and votive lamps surrounded the shrine. While shaven yellow-robed

monks performed their devotions in the nave, companies of lay pilgrims would enter by the left-hand door, and after passing in procession round the aisle, leave by the door on the right. Now Karli is deserted: its monastery is tenantless; a Hindu priest acts as custodian and officiates at a painfully modern little Durga temple beside the entrance.

Among the caves of the Buddhist period at Ellora is one that in general plan strongly resembles the great chapel at Karli. The roof is of similar design, only carved in the rock instead of being made of wood. There is a nave with hewn pillars and an aisle running round, a great window, and the inevitable rock-hewn stupa. But mark the significant change—a large image is carved before the stupa. It represents Buddha sitting upon a high seat, teaching, and he is surrounded with attendants and flying figures. Such an image would have been absolutely prohibited in the days of Asoka, and for some centuries later. But about the beginning of the Christian era the sculptors of the Hellenistic Gandhara School dared to break away from the ancient tradition, the purity of early Buddhism passed away, and image worship and relic worship gradually took the place of the philosophy Buddha taught. This was not all. When Buddhism died out in India, Hindus took possession of this old sanctuary and rededicated it to Visvakarma—god of the architects and masons, and by this name it is known to-day. Probably it became the temple or guildhall of the masons who were engaged in excavating the numerous cave-temples around, perhaps even of those who cut the great Kailasa itself.

The image of Buddha remains, for, as we saw at Gaya, he has been degraded from his position as the founder of a separate religion and declared to be a minor incarnation of the Hindu god Vishnu. Here again the early glory and purity of Buddhism have departed, and to-day this



THREE ROCK-HEWN PILLARS OF THE KARLI TEMPLE

The Karli temple has thirty similar pillars, and eleven of another design. They are entirely rock-hewn. The capitals consist of two kneeling elephants, with two female figures on the back of each. The great wooden rafters of which the unique roof is formed are visible above; they are eighteen hundred years old.

old temple is deserted save for the casual visit of a traveller. If on some rare occasion a pilgrim from afar should chance to lay a few flowers at the feet of the image, they quickly fade and seem to make the desolation of this ancient shrine the more pathetic by their presence.

The Wonder Cities. XXIV.

By H. R. Hall, D.Litt., F.S.A.

Late Keeper of Egyptian and Assyrian Antiquities, British Museum

"BABYLON the Great is fallen, is fallen!" Babylon the Great! The words call up a vision of ancient greatness and splendour long passed away, of terraced towers rising to the heavens, of courts thronged with worshippers, of altars smoking with incense and the reek of hecatombs, of the mighty River Euphrates slowly rolling between palaces and temples like the Ganges at Benares. Here stately pleasure-domes surpassing those of Xanadu, there triumphal roads and gates rivalling those of Egyptian Thebes:

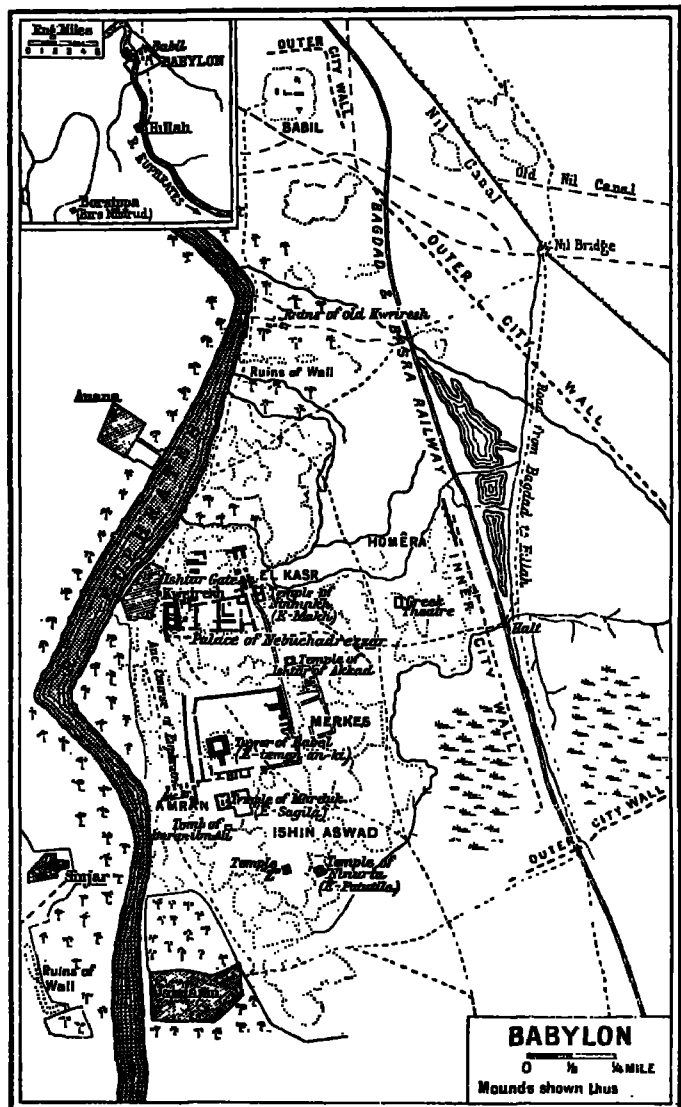
Where twice ten score in martial state
Of valiant men with steeds and cars march'd
through each massy gate.

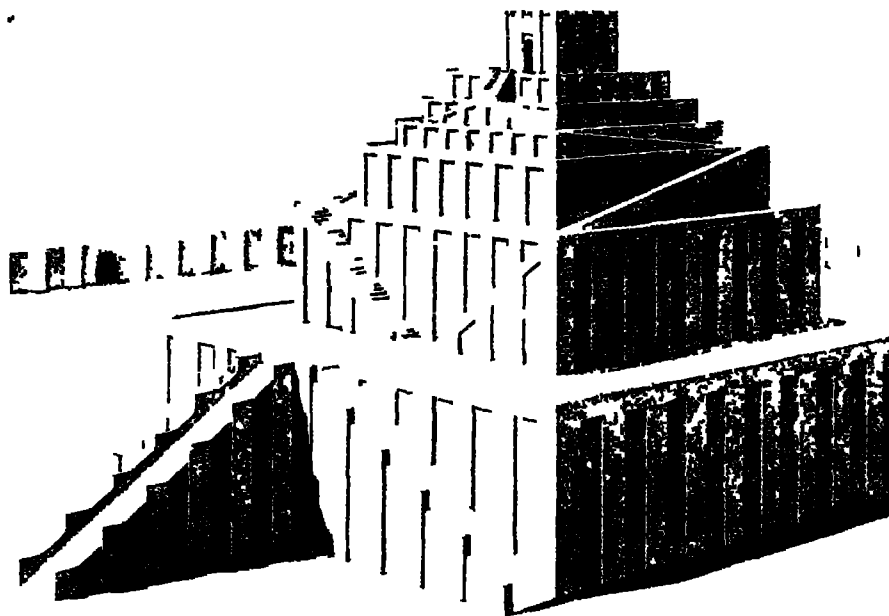
Babylon was the greatest city of the ancient world, and so we speak of London as "the modern Babylon," though it is a question whether the English metropolis may not soon have to resign this title to Greater New York, or eventually, perhaps, even to Buenos Aires. And Babylon the Great is fallen. What the site of the great city looks like now can be told you by many a British officer and man who made the campaign of Mesopotamia during the Great War.

A wide expanse of sandy mounds fringed on the side of the river by groves of stumpy palms, among which are the mud-huts of the villages of Kweiresh and Jamjama, and on the other by a low line of mound-covered wall like the Devil's Dyke at Newmarket, beyond which is the single track of the Bagdad-Basra railway, coming from Mahâwil in the north and going south to Hillah. By the side of the line is a board supported on two poles on which is painted "Babylon Halt." This is the railway-station of Babylon. Here one descends from the cars, and either walks on to the ruins or is carried thither by a ubiquitous "Ford," a trombêl (? tumbûl), as the natives for some obscure reason are in the habit of calling it.

At Kweiresh, by the water-side, is the ex-headquarters and residence of the German excavators before the war, now a rest-house and museum. Here we can eat and rest in the shade. On the mounds

there is none, and no vegetation but scanty grass. Standing up out of the mounds one sees chaotic masses of brickwork, looking like the remains of some fort blown to fragments by high-explosives, brickwork so hard that one wonders how anything short of a severe earthquake can have riven it in this extraordinary manner. These are the ruins of El Kasr (the castle), as it is





RECONSTRUCTION OF THE TOWER OF BABEL
It can almost certainly be maintained that the huge tower of E-temen-an-ki 'the bounded sanctum of the god Marduk' at Babylon was the tower of Babel of Genesis. It had seven stages crowned by a shrine, and thus to dwellers in flat country might appear to 'reach unto Heaven'.

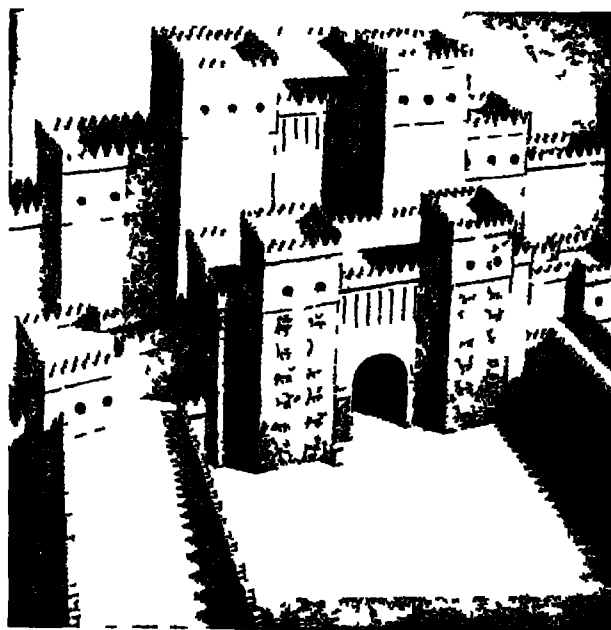
Illustration from Kollwitz

appropriately called the southern citadel of Nebuchadnezzar. To the north of it stands the curious stone lion, trampling on the prostrate figure of a man, which has always remained uncovered, and was seen by many visitors long before the German excavations. It is not of Babylonian style, and is probably some work of foreign sculptors in the north possibly Hittites brought to Babylon as a trophy of war. It is not inscribed. A definitely Hittite monument with Hittite inscription, was found near it, which is certainly a war trophy.

To the south is the great palace of Nebuchadnezzar, built over an earlier palace of his predecessor Nabopolassar part of which survives. To the un instructed eye this seems merely a great shallow hole, full of formless and meaning less brickwork. Yet its plan has been carefully made out by the German excavators, and with this in hand we gradually see order in the disorder, and can pass from hall to hall of the palaces of the two great Babylonian kings.

On its southern side is what remains of the great

hall in which, it is suggested, Belshazzar saw the vision of the Writing on the Wall which is recorded in the Book of Daniel. At its north-eastern corner, near the Ishtar Gate, is the tumbled mass of brick arches which the excavators consider to be probably the foundations of the Hanging Gardens which Nebuchadnezzar built for his Median queen, who so longed for the hills of her native country that to gratify her the king erected artificial hills, covered with trees and greenery, in which she could imagine herself at home. These were the famous Hanging Gardens of Babylon and if these are their remains, they were heaped up on a foundation of tall brick arches crossed and



RECONSTRUCTION OF THE ISHTAR GATE

Largest and most impressive of the ruins of Babylon, the Ishtar Gate was a double gateway set between wing like additions to the walls of the citadel, and consisted of two doorways, one behind the other, commanded by projecting towers and formed into one block by short connecting walls.

From Koldewe's 'Das Ischtar Tor' (J. O. Henrichs'sche Buchhandlung, Leipzig)

braced together, and, but for the fact that they were covered with earth and planted, must strangely have resembled the Mappin Terraces in the London "Zoo." The method of construction was the same, but for the fact that the moderns used reinforced concrete for the substructure

At this north-east corner of the palace is the famous Ishtar Gate, famous only to us moderns, for the ancients do not mention it. The excavation of this gate is, perhaps, the greatest triumph of the chief German archaeologist, Prof Koldewey, and his staff. From the northern part of the Kasr to the Temple of Bel-Marduk in the south Nebuchadrezzar built a great processional way flagged with breccia and "mountain" stone, which passes through the Ishtar Gate and along the eastern side of his palace. This great road, which was called Aiburshabu, was originally built on a lower level, but later the king rebuilt it at a higher altitude, and the buildings along it rose higher with it, including the Ishtar Gate.

The road, which was straight for the greater part of its length till it curved round to the Temple of Marduk, rises slightly towards the Ishtar Gate and then gradually descends, so that it passed high over the centre of Babylon like a flattened bow, and we can imagine the procession of the god Marduk passing along it to the sound of the trumpets and shawms in all the pomp and circumstance of the time. We can hear the resounding echoes as the music passes under the great brick arches of the Ishtar Gate.

When one looks at the pictures of the gate it is difficult to realize that when Prof Koldewey

began his work nothing of it was visible above ground. He has excavated the whole, finding it in a marvellous state of preservation up to the level of Nebuchadrezzar's completed road, or a little higher. Above this, which was found but little below the modern surface, it had disappeared, only the lowest courses remaining of the wonderful relief decorations of polychrome enamelled brick with which the king adorned it when he built it higher to dominate his road. Then the portion which we now see, forty feet high, was buried, notwithstanding its fine relief decoration, of the same type but not enamelled. These reliefs consist of solitary figures, one above the other on each face of the towers, of bulls and "sirrushes," or dragons, of the god Marduk. They are built up of special bricks, all of the same size, each made with some portion of the relief upon it. The processional way was lined with similar polychrome relief figures of lions. The same kind of decoration may be seen in the modern pottery relief brickwork of the Victoria and Albert Museum.

Just beyond the Ishtar Gate are the crude-brick remains of the ancient temple of the goddess Ninmakh, and farther along is the similar Temple of Ishtar. These temples were built of crude (i.e., unbaked) brick from motives of religious conservatism ("for a certain sacred reason," as Herodotus would have said), the older material was retained for them when palaces were built of burnt brick. On the way to Ishtar's temple we pass on the right an arched door of Nabopolassar, afterwards filled up by Nebuchadrezzar, when he heightened the level of the palace and



BRICKS OF BABYLON, THE CITY THAT ASTOUNDED THE ANCIENT WORLD

Of all the cities of antiquity, none may be more justly called a Wonder City than Babylon. The renown of Hundred Gated Thebes is merged in the more general wonder of Egypt, even Nineveh has achieved more fame as a power than as a town. But Babylon seems to sum up in itself the romance and the glory of a whole civilization. This is partly, no doubt, because Babylon survived to amaze the inquiring minds of men like Herodotus at a time when the very site of Nineveh was forgotten.

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LION THAT FOR CENTURIES HAS DOMINATED THE RUINS OF BABYLON

The so-called "Lion of Mesopotamia" has long been visible on the north of the Kasr mound, and has excited the wonder of visitors; it is in the attitude of trampling a man underfoot. There is about it, however, nothing suggestive of Babylonian sculpture, and the conjecture has been made that it was a trophy of war, captured perhaps from the Hittites, a powerful and somewhat mysterious people of Anatolia with whom we find Egyptians, Assyrians, and Babylonians in conflict from the fifteenth century a.c. onwards.

Photo by Underwood Press Service

altered its plan. His bricks are quite different in colour from those of his predecessor. Here and there we notice the care with which the names of the different buildings (and even plans of them) have been put up by General E. V. Costello, V.C., during his tenure of the military command at Hillah. General Costello wrote a short guide to the ruins for the use of his officers and men.

To the left is what is called the Merkes, or "market," where Koldewey found the little that has been found of the houses of the ancient city; to the right, in a depression known as the "Basin"

(es-Sahn), is the Tower of Babel, or what remains of it. All we see is a great square mass surrounded by a deep moat. This is the lowest course of the temple-tower Ê-temen-an-ki, which is undoubtedly the traditional Tower of Babel. Farther on, in the depths of an immense excavation, seventy feet down in the mound of Tell Amrân, are the scanty remains of Ê-Sagila, the Temple of Marduk. Two other crude-brick temples, Ê-Patutilla, the shrine of the god Ninurta or Enurta, and another, lie farther south still. And here Babylon ends.

To the west, towards the river, are the remains of



SECTION OF BABYLON'S WONDERFUL STONE-PAVED PROCESSIONAL ROAD

Along this mighty Sacred Way, a section of whose breccia pavement is here shown unearthed, Nebuchadrezzar passed in pomp with the gods of Babylon, when they were borne in procession on festal days. The road stretched from without the city in the north, passed through the Ishtar Gate, and followed the east side of the citadel till it reached E-temen-an-ki. Here it branched to the right, followed the southern wall of the precincts, and crossing the Euphrates by one of the earliest known bridges, passed out of the city

Photo: Crown Copyright



STONE "LION OF MESOPOTAMIA" AMID ITS DESOLATE SURROUNDINGS

Roughly blocked though the statue of the Lion may be, there is a wonderful strength and virility about it. And it is strange that for so many long years the only thing remaining above ground to mark the habitation of a cruel and powerful people should be the handiwork of one of the foreign races upon whose necks the hand of Babylon was heavy. Yet the gould she did must not be overlooked, for as Rome spread the culture of Greece, so did Babylon the civilization of her predecessors, the ancient Sumerians.

Photo: Crown Copyright



TERRA-COTTA COFFINS IN WHICH THE BABYLONIANS LAID THEIR DEAD TO REST

The bath-like sarcophagi illustrated above are relics of the burial customs of the ancient Babylonians. They are terra cotta sarcophagi and the bodies of the dead were not mummified as in Egypt; the bones of twenty-five centuries ago are still well preserved. In the opposite page are seen the arched sarcophagi. It was in one such coffin discovered in Nebuchadnezzar's tomb that a gold plaque was found engraved with important architectural evidence.

Photo by Underwood Press Service



MERODACH-BALADAN AND HAMMURABI, FAMOUS BABYLONIAN KINGS OF AN EARLIER AGE

On the left, Merodach-Baladan II making a land grant to a vassal. He was a thorn in the sides of Sargon II and Sennacherib by reason of his continual revolts during the period of Assyrian domination. On the right, Hammurabi, a king of the first Babylonian dynasty about 2200 B.C., shown on a stele in the act of receiving from the sun god the laws which are carved below. The discovery of these laws and similar legal documents shed much light on early Babylonian social organization.

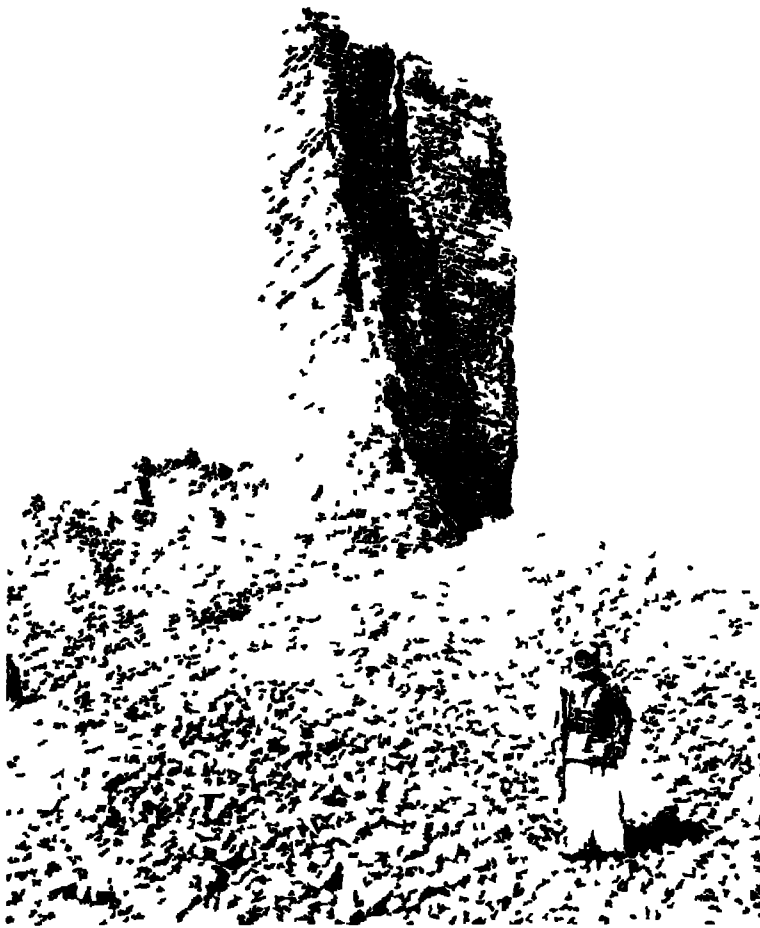
Left from a stele in Royal Museum, Berlin; right, from a cast in the British Museum.



VAULTED BRICK BURIAL-CHAMBERS OF BABYLONIA

From this illustration may be seen the way in which tombs were built in Babylonia. They were vaulted and constructed, not of kiln-baked, but of sun dried bricks, a stepped passage led down to each one, and they were large enough to contain several of the terra cotta sarcophagi illustrated in page 902. They were thus probably family tombs. But the Babylonian burial customs have not produced finds of such archaeological interest as those in Egypt, the Babylonians being more concerned with this world than the next.

Photo by Underwood Press Service



a brick bridge, which spanned the Euphrates before it was diverted farther to the west. In ancient times it followed a course very different from that of to day, as it flowed south from the vicinity of the mound Babil through the heart of Babylon and rejoined its present bed outside the southern walls of the city. Babil was a military citadel built by Nebuchadnezzar on a mound north of the city. Its ruins are the most imposing mass of brickwork at Babylon, and fitly preserve the ancient city's name.

The great inner walls of Babylon, Imgur Bel and Nimitti-Bel, met at the Ishtar Gate. The latter passed east and then south, and is the wall or dyke running parallel with the railway. Farther out again to the east is the great outer wall, which has not been excavated. Beyond it, again, are ancient lines of circumvallation, the relics of former sieges. To besiege Babylon must have been an immense task, nor can anybody ever have besieged more than a part of it at one time. When the Persians took it they got in by a water-gate of the Euphrates. In Nebuchadnezzar's time



SOUTH OF BABYLON STOOD BORSIPPA WITH ITS TEMPLE-TOWER

The mound of Birs Nimrud here illustrated marks the site of Borsippa, and has in the past been identified with the famous Tower of Babel, although it is Etemenanki at Babylon which must have given rise to the Biblical stories. Of the mighty tower which once adorned Etemenanki the temple of Nabu, only this riven mass of brickwork remains projecting like a fang from the rubbish. It owes even this state of preservation, however, to the fact that the bricks have been vitrified by the action of fire.

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E-SAGILA, WHERE DWELT THE IMAGE OF BABYLON'S HERO-GOD

E-Sagila, the temple of Babylon's patron god Marduk, adjoined the temple-tower E-temen an ku and here is a view of its excavated ruins. The two walls in the centre of the crater-like pit mark the commencement of a passage connecting the temple proper with its tower to the north. Marduk occupied the same position in Babylon as Ashur in Nineveh—originally the good genius of the town, he rose in importance among the other gods with Babylon's attainment of political supremacy.

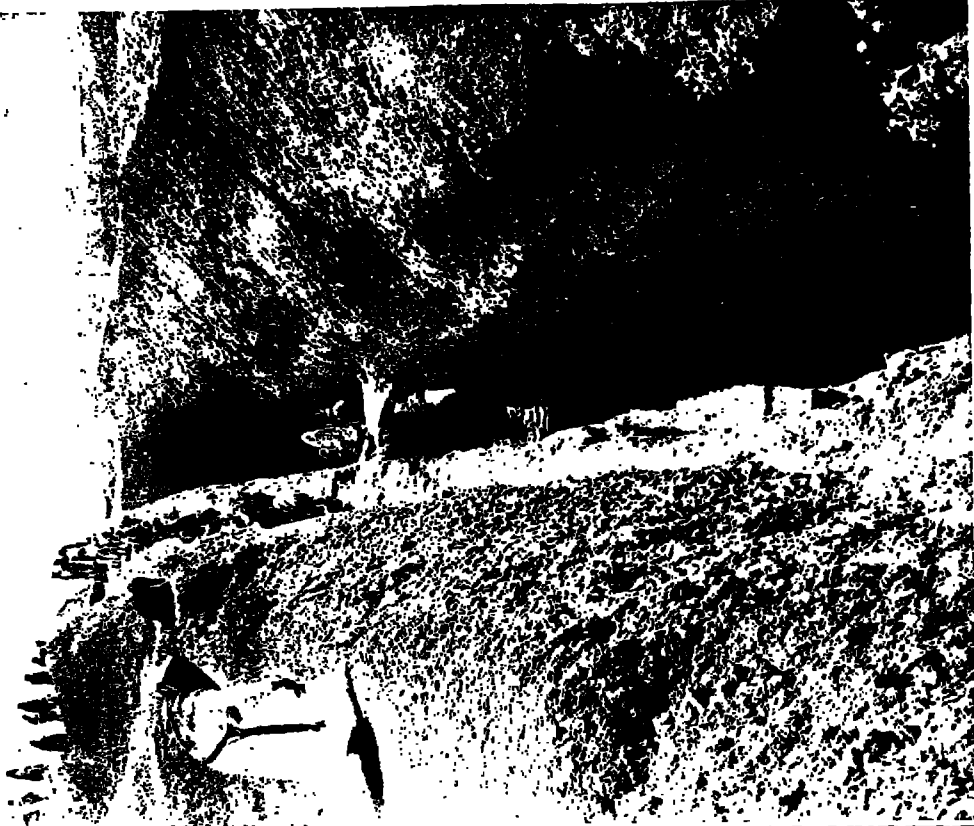
Photo by Underwood Press Service



RUINS ON THE SOUTHERN CITADEL AT BABYLON

The fact that Nebuchadnezzar's palace on El Kasr was largely built over earlier structures of his father gives rise to the extraordinary complexity of these brick foundations. The Ishtar Gate was just outside the north-east corner of the citadel, and gave access to the Processional Way which ran along the eastern wall.

Photo by Underwood Press Service



HOW BABYLON'S CITADEL IS BEING EXCAVATED

A deep trench dug on the crest of the Kasr mound to lay bare the foundations of the buildings which once crowned it. These are the methods which are revealing to us the magnificence attained by Babylon during its short span of imperial power between the reigns of Nabopolassar and Nebuchadnezzar (607-539 B.C.).

Photo by Underwood Press Service

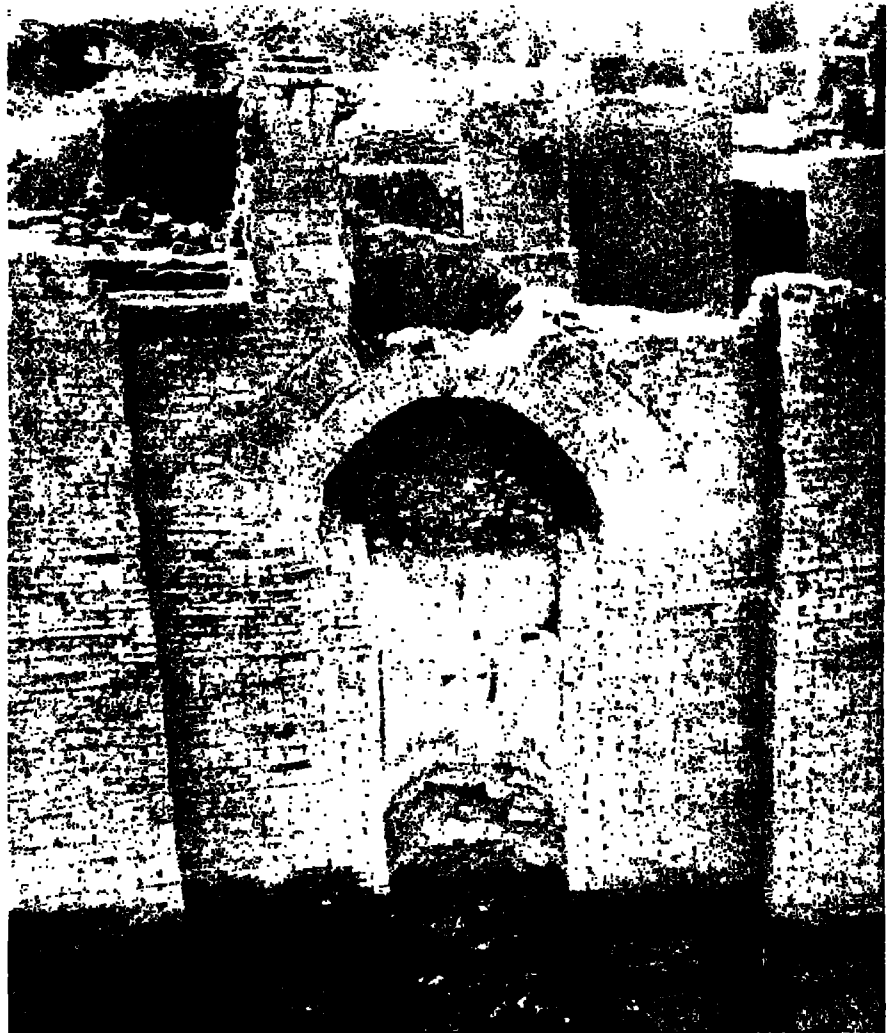
the city measured nearly five kilometres (3½ miles) in length by three broad from the outer wall to the Euphrates west of the Temple of Marduk. It may have crossed the river here, and been broader. The accounts of its size given by the ancients were enormously exaggerated, but it was big enough in all conscience for an ancient city, immensely larger than any other ancient city.

There is no need to suppose, as some have done, that it extended for miles to the south-westward so as to include the ancient Borsippa, where the great ruined ziggurat, or temple-tower, now known as Birs Nimrūd lifts to the sky its jagged tooth of riven brickwork, vitrified by the fierce fire of some besieger, fed, perhaps, by natural pitch from Hit or by crude oil from Elam. Borsippa was a distinct city.

The extant remains of Babylon bear everywhere the impress of the great Nebuchadrezzar. He remodelled it from end to end during his reign, so that it has been difficult for the modern excavators to discover anything much earlier than his time, though, as a matter of fact, Babylon was in his day a very ancient city.

It was the capital of the great law-giver Hammurabi, fifteen hundred years before.

Of later remains, of buildings erected after his day, we have a Persian "apadāna," or summer palace, at the west end of the Kasr, and Greek remains, a theatre, and a "palaistra," or gymnasium, close to Nimitti-Bel and the railway. Here, too, rises the artificial mound which Alexander erected for the cremation of his dead friend Hephaestion, still bearing the traces of the funerary



ARCHWAY IN NABOPOLASSAR'S WALL AT BABYLON

On the eastern side of the citadel there have been discovered the remains of a wall erected by Nabopolassar and subsequently buried and built over by Nebuchadrezzar when he enlarged his palace. The section of this wall illustrated here is of particular interest as it shows a postern gate with a perfect keystone arch.

Photo: Crown Copyright

pyre, and from its red burnt earth known as Homêra, "the ruddy." Alexander pulled down part of the wall to build this mound, and the flames of the gigantic pyre must have been an awe-inspiring sight reflected in the waters of the Euphrates, which then flowed between it and the palace.

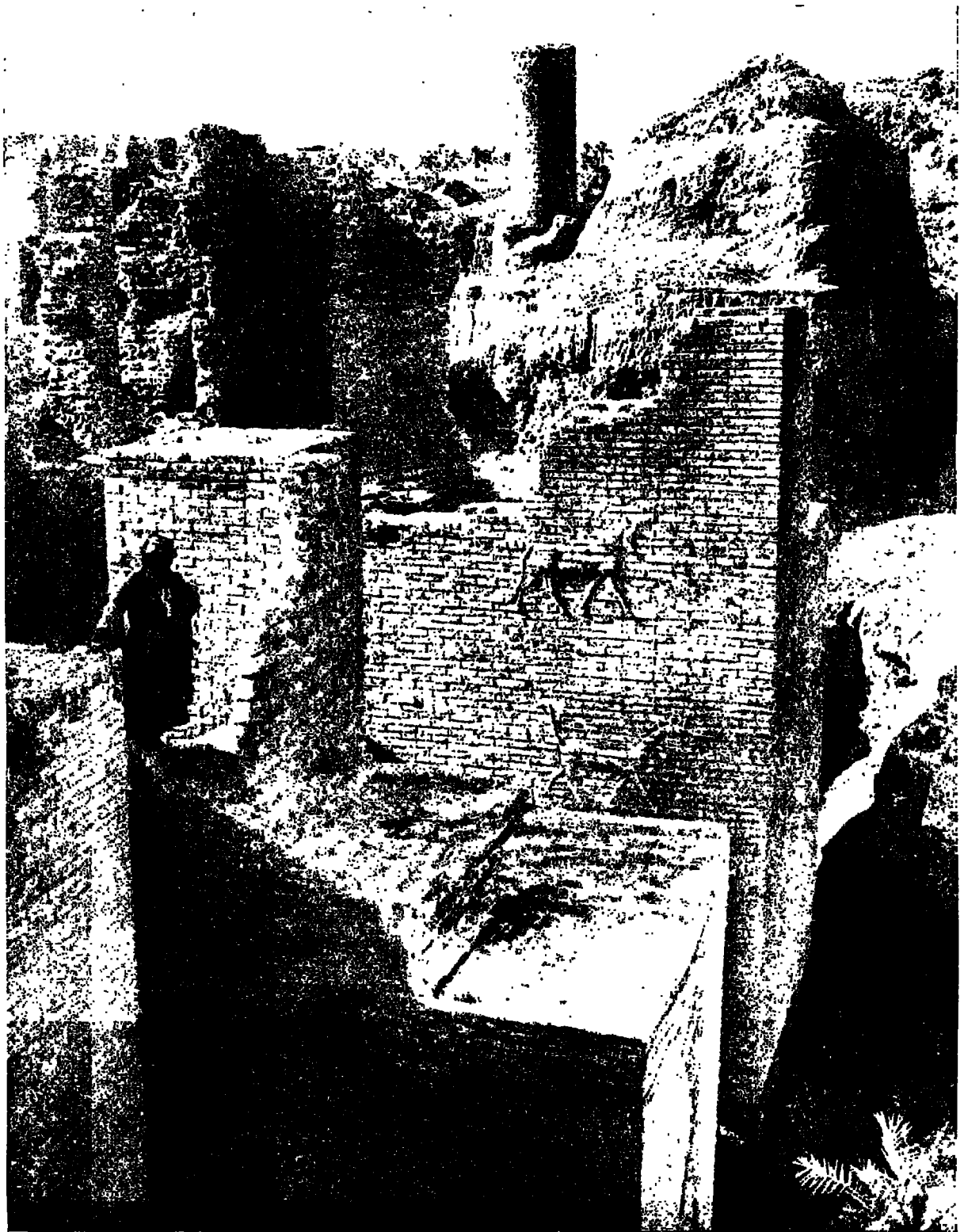
In the palace died Alexander the Great. Nabopolassar, Nebuchadrezzar, Belshazzar, Cyrus—these are the selfsame buildings they built or saw. Here they lived, designed, caroused, conquered, and died.



Courtesy of J. O. Harfordsche Buchhandlung, Leipzig

GAUNT PILES OF BATTERED MASONRY ATTEST THE DOOM OF A ONCE GREAT CITY: BABYLON FROM THE WEST

The tale of ancient Babylon illustrates the axiom that the greater the height the greater is the fall. A large city even according to the modern standard, it nevertheless passed from the ken of man as completely as if all the forces of nature had combined for its destruction. An air view of the city showing its general lay-out appears in page 433. This photograph, from 'The Ishtar Gate in Babylon' by the great German archaeologist Robert Koldewey, taken from the west, shows in the centre the ruins of the great double gates of Ishtar, the most prominent symbol of Nebuchadnezzar's pomp and pride. Once the round brick pillar seen on the left bore colossal figures of bulls and serpents, emblems of the gates. Only the stark shell of magnificent ruins



RELIEFS ON THE WALLS OF É-SAGILA, SHRINE OF THE GOD MARDUK

The walls of the Sacred Way outside the Ishtar Gate, the gate itself, and the walls of É-Sagila, the Temple of Marduk, were all elaborately decorated with many-coloured reliefs of animals and friezes of rosettes, executed in glazed brick. Of these nothing but fragments remain to us. But luckily the same design was continued, although unglazed, beneath the pavement-level, whereby such wonderful examples of Babylonian glyptic art as those illustrated above have been preserved. Outside the gate were lions, sacred to Ishtar, and inside, as here, alternate bands of bulls and dragons, or "sirrushes," emblems of Marduk.

Photo: Crown Copyright

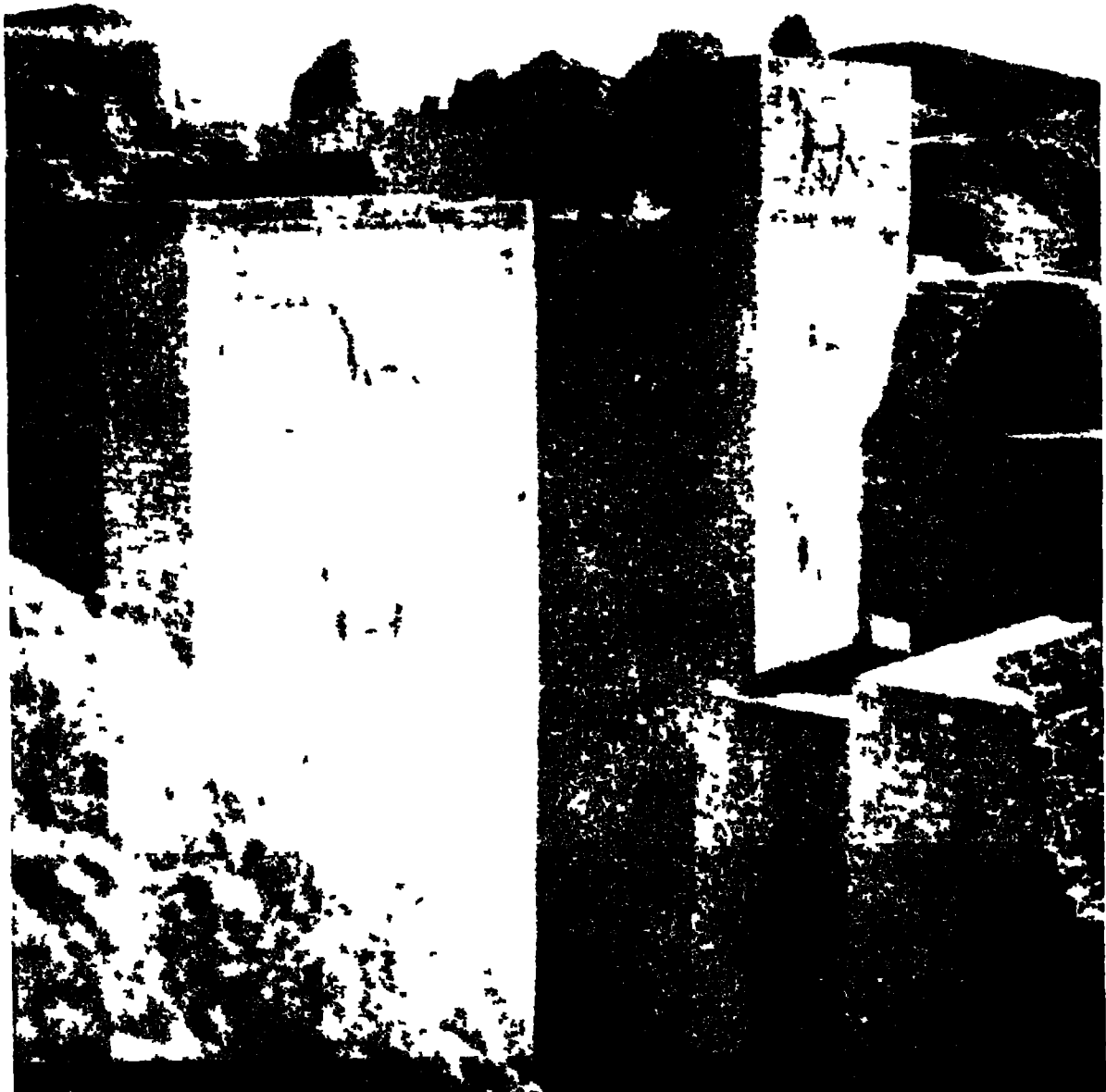
'Babylon the Great is fallen is fallen' How
are the mighty fallen!

They say the Lion and the Lizard keep

The Courts where Jamshyd gloried and drank deep

And Balaam that great Hunter—the Wild Ass
Stamps on his Head but cannot break his Sleep

Tamam shud! (it is finished) Babylon the
Great will rise no more But modern archæology
can tell us enough to call something of its
ancient power and glory from the darkness of
the dead past



THE ISHTAR GATE, CROWNING GLORY OF BABYLON'S SACRED WAY

Although the Ishtar Gate must once have been a strategic point in the defences of Babylon, piercing as it does the two great walls Ishtar Bel and Ninuth Bel at the time when Nebuchadnezzar rebuilt it with lavish expense it was well within the outer fortifications and formed a sort of triumphal approach to the Sacred Way. The pavement of this road was successively raised, and it is below its present level that the extant portions of the gate were found. This photograph shows the Temple of Ninmah in the distance

Photo. Trustees of the British Museum

The Seven Wonders. VII.

The Temple of Diana at Ephesus

By F. N. Pryce, M.A.

Assistant Keeper, Department of Greek and Roman Antiquities, British Museum

THE temple of the Oriental goddess, called by the Greeks the Ephesian Artemis and identified by the Romans with Diana, was ranked by the common consent of antiquity among the Seven Wonders of the World, and not a few writers assign to it the first place on the list. One author says: "I have seen the walls and hanging gardens of old Babylon, the statue of Olympian Jove, the Colossus of Rhodes, the great labour of the lofty Pyramids, and the ancient tomb of Mausolus. But when I beheld the temple at Ephesus towering to the clouds, all these other marvels were eclipsed."

Pausanias, one of the soberest of ancient critics, observes that "it surpasses every structure raised by human hands." There are few buildings concerning which we possess, in some respects, more abundant detail; long accounts have been preserved of its history, of the destructions and conflagrations it suffered at various times, of the rebuildings each time on a scale of greater magnificence, and of the splendour of the finished edifice. It is then singular to find that for many centuries not only had every vestige of the building disappeared from view, but that all trace or tradition of the site on which it stood had been completely lost; and the wildest guesses were made by travellers who searched the ruins of Ephesus in the hope of identifying the remains of the city's crowning architectural glory.

The credit of the rediscovery of the long-lost shrine belongs to an Englishman—J. T. Wood—who in 1863 commenced, on behalf of the British Museum, a search for the temple. For six years he laboured without success, and the search was on the point of being abandoned when, in the spring of 1869, he hit upon an inscription in a wall proving the latter to be the boundary of the sacred precinct around the temple. The discovery of the actual site now seemed only a work of days; but the precinct proved of enormous extent, and Wood's trial pits and trenches yielded no result until the last day of the year, when he struck a marble pavement, which soon proved to belong to the temple. Wood continued his excavations until 1874, by which time he had dug over the whole site and recovered a large number of fragments

of architecture and sculpture which are now in the British Museum. The greater part of them obviously belonged to the last temple—that built in the time of Alexander the Great, at the highest point of Greek art; but some fragments were instantly distinguished as belonging to a much more primitive style and were rightly assigned by Wood to the preceding temple—that built by King Croesus or to which he contributed.

Beyond these two temples, however, Wood did not go; but literary tradition, as well as general probability, suggested that below the temple of Croesus still earlier remains were to be found. Accordingly, in 1904 and 1905, a new campaign was undertaken and the site probed to the bottom by Mr. D. G. Hogarth. The excavation proved difficult at the low levels, as springs were opened up and steam pumps had to be continuously in operation. But evidence was recovered for the existence of no less than three earlier temples, lying one above the other. This evidence may perhaps most conveniently be summarised by saying that, on digging down between the walls of the Croesus temple, a mass of masonry was discovered resting on undisturbed soil at its lowest level; and this, when dissected, proved to have been on two successive occasions enlarged and raised, before the Croesus temple was finally built over and around it.

From the lower levels was recovered an assortment of over three thousand objects of a very early style of art. By far the larger number are of gold—jewelry, statuettes, etc.—and the greater part of this gold was found actually within the limits of the basis of masonry, where it must have been placed as a "foundation deposit." Even more interesting are a number of ivory statuettes, worked with the most minute detail and with the rarest delicacy of finish. They may have been votive offerings at the shrine; the favourite subjects are women, probably priestesses of the goddess, and wild animals, for Artemis was queen of the beasts of the field. With their Oriental draperies and turbans, they differ widely from the preconceived idea of a Greek statuette; at the time they were made, the craftsmen of Greece, not yet aspiring to individuality in style, were still content



WHERE THE GREAT DIANA OF THE EPHESIANS HAD HER FAR-FAMED SHRINE

The ruins of the temple of Diana of the Ephesians are located in the Turkish village of Ayasoluk, a corruption of Hagnon Tello, on a site closer to the city of Ephesus than the ruins of the city, which lies about a mile to the south-west. It is notable for the ruins of the temple which are the only ruins of the city which were built of material from the mighty temple.

humbly to copy the products of the great civilization of the East.

We may now reconstruct the early history of the site. There is a tradition that originally a small and primitive shrine stood on the marshy ground of the river delta near Ephesus and that in the seventh century B.C. a stone building was erected over and around it. Thus we identify with our earliest building for no stone foundations underlie it and the objects found within it can be dated round 700 B.C. It is also to be remarked that we cannot be sure whether this structure was really a temple or anything more than a platform and altar. This was destroyed in 600 B.C. by an invasion of the Cimmerians barbarians who burst into Asia from Europe, and restored in the form of our second temple, which has the appearance of a hasty repair the masonry being of very inferior character, and which probably also did not last long, although the exact date at which it was

replaced by the third temple cannot be stated. In any case the third temple was certainly a temple whatever its predecessors may have been, it was built of fine limestone and seems to have had a porch of two columns facing west.

In the course of the sixth century B.C. this third temple appears to have fallen out of repair. The trouble was that the foundations constantly showed a tendency to subside in the marshy ground. The floor was raised at every repair, but all three early temples are now permanently under water-level. The city of Ephesus then at the height of its power and wealth determined to rebuild the temple on a scale of unexampled magnificence, and many neighbouring States sent contributions of material and money. In particular we are told of the liberality of Croesus, King of Lydia, whose great wealth and tragic fate were proverbial in the ancient world, and whose reign (560-546 B.C.) thus indicates the date for this rebuilding; besides other offerings,

Croesus presented most of the columns. The reason why such special honour should be paid to what had hitherto been an unimportant sanctuary is unknown but the result was that the temple at once took rank as one of the marvels of the age.

In the next century the traveller Herodotus compares this Croesus temple to the Pyramids. It was of white marble covered four times the area of its predecessor and was surrounded by Ionic columns with a portico of eight columns at each end. The columns had a peculiarity of great rarity in Greek architecture at the base they were encircled with a band of sculpture. Part of such a band has been restored in the British Museum though it cannot be guaranteed that all the fragments of sculpture which have been inserted really belonged to the same column. It will be observed that by this time the sculptors have liberated themselves from the slavish dependence upon Oriental models we remarked in the case of the ivories of the first temple: their work though stiff and clumsy, is now something which may be called distinctively Greek. Other remains in the British Museum include two of the Ionic capitals of the columns and some inscribed fragments of base which are generally interpreted to mean 'Dedicated by King Croesus'.

In the year 356 B.C. this temple was wantonly burnt down by one Herostratus, whose object was by his crime to make his name immortal. A reconstruction on a scale of even greater magnificence was at once undertaken. The ladies of Ephesus sold their jewels to provide funds; kings, in emulation of Croesus presented columns sculptured by the greatest artists of the age. Alexander the Great, passing through Ephesus on the way to the conquest of Asia offered to bear the whole cost provided the Ephesians would allow him to inscribe his name upon it as the dedicator. They refused alleging with diplomatic cunning that it was not meet for one god to make dedications to another. It is probable that by about 323 B.C. the new temple was finished. It is reported to have been 425 feet long with 127 columns sixty feet high, thirty six of the columns were sculptured, and the remains of several of these have been brought from Ephesus to the British Museum. In them we see no longer the primitive stiffness of the sculptors employed by Croesus but may admire the perfection of a developed art. The best preserved drum is usually taken to represent the story of Alceus who is to be released from the Underworld and restored to light.

Thus restored the temple appears to have stood



THEATRE AND STREET IN THE NOW DESERTED CITY OF EPHESUS

On the site of Ephesus itself are many remains, but these are almost entirely of the Greco-Roman period, the Hellenistic and still more the earlier Ionian cities being obscured. In this photograph may be seen the theatre (restored subsequently to the disturbance occasioned by the visit of St. Paul) and a broad street which once ran from it to the port now quite silted up. On the right of this street, in the distance, is a pile of ruins once taken for the Artemision, actually the Baths of Constantine.



ARTEMIS, OR DIANA, IN ASIATIC AND HELLENIC GUISE

Diana, as explained in page 683, was the name by which the Romans knew the goddess Artemis; but the many-breasted Artemis of Ephesus was a very different personage from the chaste huntress of the European Greeks. She was, in fact, the great mother-goddess of the Asiatics, who appears in many guises, and was only gradually, it seems, identified with the deity brought with them by the Ionian colonists. This photograph shows the contrast between the weird figure of Ephesian art decked with animal heads on the left, with feet, hands and face of bronze, and a Graeco-Roman Diana of the normal type on the right.

The Museum, Naples. Photo by Ewing Galloway

for some centuries, growing yearly in wealth and reputation. Apart from the beauty of its architecture and the variety of its sculptured decorations it took precedence of all other temples in regard to the costliness and beauty of its contents. "The Temple of Artemis" says one author, "is a common treasury for all Asia." "All nations," says another, "deposit their riches in the temple." Xenophon, after the Retreat of the Ten Thousand deposited his wealth with the temple priests. But the amount of specie within the vaults shrinks into insignificance in comparison with the value and interest of the treasures of art collected in the temple. Pliny tells us that the statues alone would need many volumes to describe. "It is full of sculpture almost all by Praxiteles." Some of the most famous paintings of antiquity hung here including the famous equestrian portrait of Alexander the Great by Apelles, for which the painter received twenty talents of gold. Of this portrait it is said that Alexander did not at first

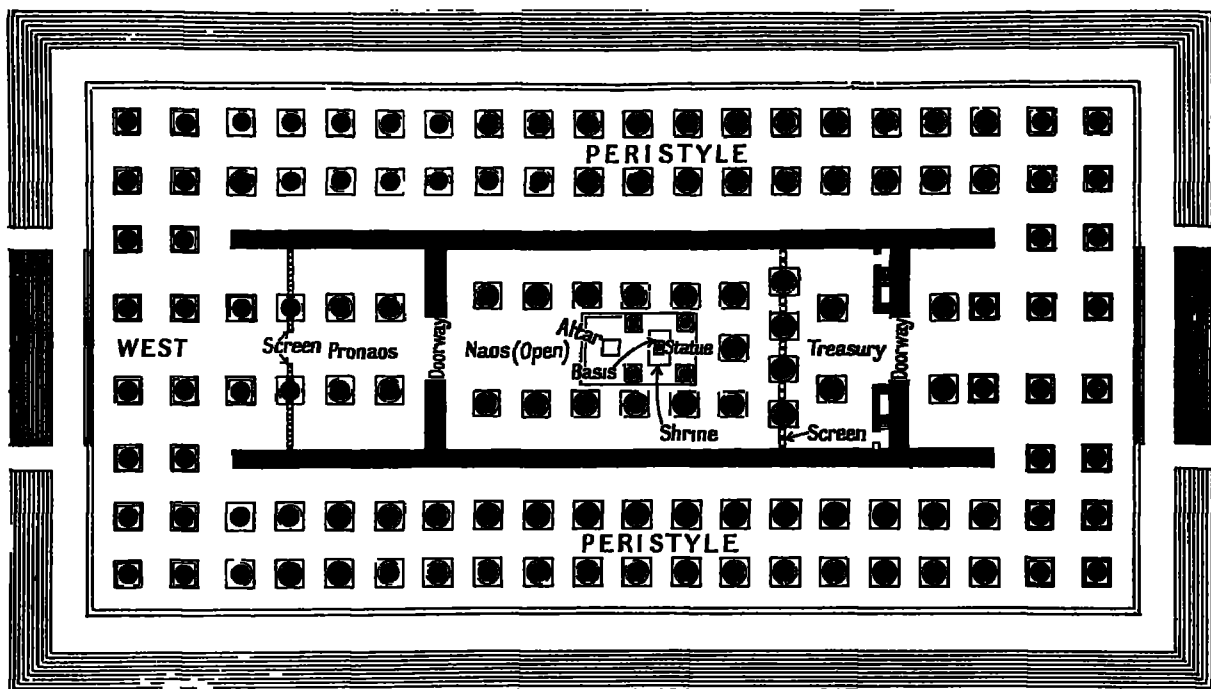
praise it as it deserved. But his horse, on coming opposite began to neigh at the horse in the painting as if it also were alive. 'King' said Apelles, "your horse is a better judge of painting than you are."

Various records of minor damage by earthquake or fire are preserved but the temple does not appear to have needed extensive repair until the reign of the Roman Emperor Gallienus (A.D. 260-268) when it was plundered and burnt by the Goths. It is very doubtful whether it ever was restored after this catastrophe. There are signs that the worship of Artemis had been losing ground for some years previously. In the following century it certainly was in ruins; a convenient quarry from which building material might be obtained. Later a church was built upon it but this was destroyed by a change in the course of the river, which covered the scanty remains of the temple with a layer of ooze obliterating all traces of the site until sixty years ago.



DRUMS OF COLUMNS THAT WERE OVER 60 FEET HIGH. TEMPLE OF DIANA AT EPHESUS

Five successive foundations in all have been traced on the site of the Temple of Diana, but the first two may have been little more than a platform, sacred tree, altar and image. The third temple, however, was certainly a temple in the accepted sense and was perhaps that constructed by Chersiphron and Metagenes in which Ionic architecture was first employed. The fourth, designed by Dinocrates, was the temple to which Croesus contributed, and the fifth begun about 350 B.C. was the Wonder of the World. One hundred and twenty-seven columns in the Ionic style, of which eight at either end formed imposing façades, are said to have supported the structure. Their height 60 feet seems to have caused universal wonder. The extensive grounds, or "temenos," in which the temple stood were regarded as an inviolable asylum, and it was the practice of royal benefactors to enlarge this area even so as to include at one time part of the town itself.



GROUND PLAN OF THE GLORIOUS TEMPLE OF DIANA OF THE EPHESIANS

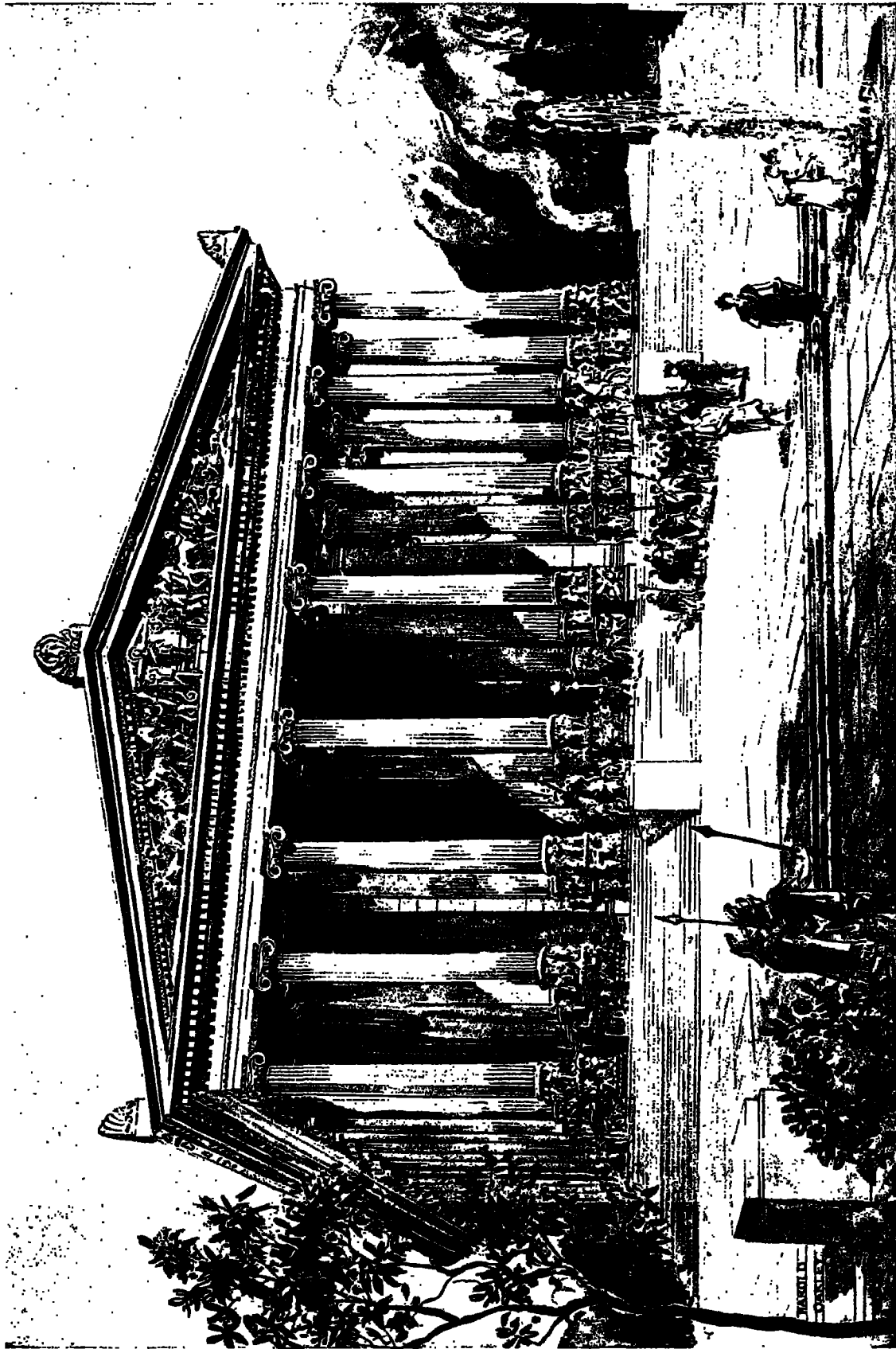
There were shrines to the goddess Artemis at Ephesus from very early times but the temple that ranked as one of the wonders of the world dates from the fourth century B.C. The site first excavated by Wood in 1869-74 was again explored in 1904-5 by Mr. D. G. Hogarth with Mr. A. L. Herdson as associate architect. This plan prepared by the latter, shows the arrangement of the 127 columns and enclosed within the peristyle the Naos which was open to the sky, the square altar and the central shrine where stood a great statue of the goddess.



Courtesy of the Trustees of the British Museum

SYMBOLIC STATUARY AND ARCHAIC SCULPTURE IN DIANA'S GREAT TEMPLE

The columns of the Temple of Diana were rich in sculpture, as is indicated in the reconstruction in the plate facing page 913. The group on this diurn probably represents the legend of Hermes leading Alceste back to the world of light. Hermes, a lovely figure, stands with his head thrown back and parted lips, with chlamys wrapped about his left arm and caduceus in his right hand. On the right are the remains of the shaft of a column presented by Croesus of Lydia to the temple, and (lower photograph) the base of a column on which are fragments of an inscription generally interpreted to be a record of the gift.



SOARING IONIC FACADE OF THE TEMPLE OF THE EPHESIAN DIANA

In this reconstruction the fifth and last Temple of the Ephesian Artemis is shown, not *old* and white as we have grown to think of Greek temples, but glittering with the colours and the metal and the marble of actuality. In it were to be found the most priceless works of art of the age and countless hoards of treasure deposited there for safety by the Asiatic states. Begun about 350 B.C., it was not yet complete when Alexander the Great visited Ephesus in 334; and the Ephesians jealously refused to accept his offer to bear the heavy cost of reconstruction.

Drawn from the best authorities, and skilfully coloured by Mr. Harold taking for "Wonders of the East."

The Master Builders. VII. Shrines and Cities of Ancient Mexico

By L. E. Elliott

Author of "Brazil, To-day and To-morrow," etc.

IN a previous contribution to this work (pages 217-231) the writer of the following article described "The Maya Marvels of South America." Here she deals with Mitla and other centres of Aztec influence in southern Mexico, modern interest in which, dating from the days of Prescott, has been aroused afresh by recent exploration, under the auspices of the Government of Mexico and the Field Columbian Museum, Chicago, U.S.A.—EDITOR.

RISING high aloft upon their four-square, pyramidal foundation-mounds, towering into the blue above gardens and woodland, stood the vast temples and palaces of Mexico in their great day. Those which by some chance have escaped destruction or, under the patient hands of the excavator, are newly brought back to sight from their covering of soil and verdure, restored and rebuilt, still possess so much of their original bold and fantastic beauty that it is not a difficult thing to imagine them again as they were when the ancient gods were paramount in Mexico.

Walk among the bizarre, almost breath-taking stone carvings of Mitla; look upward at the serried chambers of soaring Papantla; climb the heights of Teotihuacan and Monte Alban and trace out the tremendous complex of temples and dwellings; or visit that dainty poem in stone, Xochicalco, and you will discover that ancient Mexico lives again. There are ruins of great buildings in other parts of the world, and perhaps especially in Egypt, where one is conscious of extreme serenity; a sense of peace, of brooding content, of eternal stillness, reigns there.

But no such feeling informs the old cities and shrines of Mexico. Here is a pervading restlessness; one is conscious of something breathing, as though the bold and triumphant intent of the Mexican builders still lived and moved. Nor is this subtle and disturbing atmosphere of vitality due solely to the drawings, the innumerable drawings and sculptures of gigantic serpents, of tigers and strange monsters, of grotesque gnomes whose eyes watch from a thousand walls: you may catch as distinct an impression of a living force within the walls of Mitla, where none but geometric designs are carved upon the sweeping surfaces. When you feel, even lightly, that these huge buildings palpitate with life, the wrecked frame of such a tremendous theatre as Teotihuacan speedily takes form and colour, and from its splendours there rises again the intelligent and crowded daily movement, the brilliance and sound of that thickly-populated and

industrious Mexico upon which the Spaniards burst more than four hundred years ago.

The dwellings of the humbler folk are gone. They were built of frail material by Toltec and Aztec just as similar cottages were constructed by the southerly Maya folk, and just as the descendant of the Aztec builds himself a place to live in nowadays. But the palaces of the kings, the communal dwellings connected with social and religious routine, and the temples of the long list of native or adopted gods of Mexico were built strongly and splendidly, upraised and richly ornamented. Smooth sides, burnished with such resplendent shining whiteness that the amazed Spaniards, at first sight, thought they were faced with silver, rose in perfect geometric progression to the crowning edifice of the summit, and these bright surfaces were broken in many instances by masses of deep carving, by frescoes and gaily-painted stucco-work. Wonderful fragments still remain of beautiful temples standing upon their pyramids.

The images of the gods are gone from the seclusion of their inner shrines, the black-robed, blood-stained priesthood has vanished for ever; gone is the glory of the Aztec emperor and the nobles who once, plumed and adorned with gold and gems, walked in proud procession up the tall stone stairways to the altars of the summit. The sacred fires that blazed, night and day, fed with scented copal, have left no traces but blackened hearths, whether they burned before the gentle deity, Quetzalcoatl, needing only flowers and fruit as tribute, or before the fierce and blood-loving Huitzilopochtli, devourer of the living hearts of men; but a stone's-throw distant dwell the vigorous, hardy peasantry of modern Mexico, a fertile and bright-spirited people, Christianised for four centuries and yet retaining much of their ancient habit of housing, clothing, food, and speech. From this race sprang the concepts and the skill that created Teotihuacan and Mitla; while they survive, ancient Mexico is not dead.

What was the origin, what was the extent, of

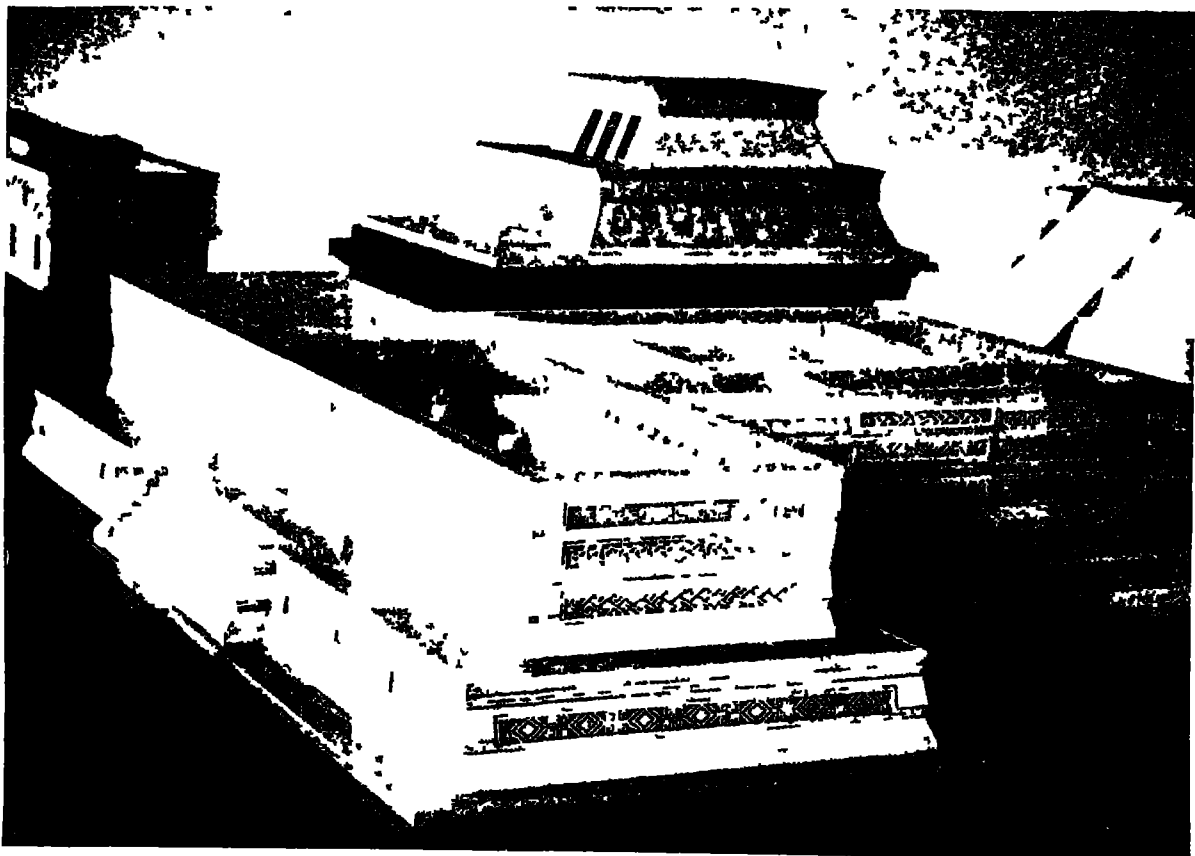
the great Mexican civilization, you ask yourself when you look upon these mighty ruins. The extent of the Aztec empire, the conditions of life prevailing in 1520 we know with comparative certainty, for the destroying Spaniard was compelled to wonder and admire, and wrote down the tale of what he saw. We have, too, the Aztec records and the plain evidence of the immense complexes of buildings, the daring architecture, the pottery and textiles and feather work and metal artistry of a beauty-loving people. Of the origin of this great race we know less, but an outline, based upon native legend insistent and precise and backed by the shrewd guesses of the anthropologist grows more definite yearly, as the testimony of handiwork slowly confirms tradition.

In its period of splendour the Aztec empire was well organized, powerful and extremely energetic, dominating from the great civic and religious centre of the Mexican Valley all the great expanse of country from the Atlantic to the Pacific oceans,

enforcing the payment of tribute from regions as far north as the present State of Hidalgo, and as far south as Guatemala. Regular expeditions of a guild of traders went far beyond these territories, treading the maze of forests and hills at least as far as Salvador Republic, a colony of Nahuatl-speakers settled on Chiriqui Lagoon, on the coast of Costa Rica was probably an offshoot of Aztec enterprise, and there are indications which appear to point to contact with Peruvian culture.

For an account of the daily life of the great centre of Aztec power, the shining twin lake cities of Tenochtitlan and Tlaltelolco in the Vale of Mexico, guarded by the eternal snows of Ixtaccihuatl and Popocatepetl, go to the pages of Bernal Diaz del Castillo, that very human conquistador.

When we arrived at the great market place we were astounded at the number of people and the quantity of merchandise that it contained, and at the good order and control that was maintained, for we had never seen such a thing before.



MODEL OF THE PALACE OF THE PILLARS," IN THE ANCIENT MEXICAN CITY OF MITLA
 Figures defaced by religious zeal, stone removed for later structure—the story that it is the despair of the Egyptologist has been repeated in Mexico but owing to its exceptional state of preservation the building modelled above needed little hypothetical restoration. The panching of the foundation platform has been restored to agree in style with the walls above. Length of facade of the original building 133 feet of model 7 feet. The model was constructed under supervision of Prof. W. H. Holmes, when curator of the Department of Anthropology Field Columbian Museum, Chicago.
 Department of Anthropology U. S. National Museum



THE SMILING VALLEY OF MITLA, WITH PART OF THE RUINS IN THE FOREGROUND

Situated in a broad valley surrounded by mountains, between Oaxaca City and Tehuantepec, the better preserved ruins of Mitla are on the outskirts of a modern village inhabited by natives of Aztec stock and occupy an area of about 2,000 feet from north to south, and about 1,000 feet from east to west. The geometric mural decorations afford a striking contrast to the anthropomorphic designs of the Maya illustrated in pages 217-231. The material is of adobe and the soft but massive and durable trachytes that break down in great blocks from the cliffs around. The lintel stones in the remains range from 10 feet to 20 feet in length, and from 2 feet to 4½ feet in each of the other dimensions, and vary in weight from 10 to 15 tons.

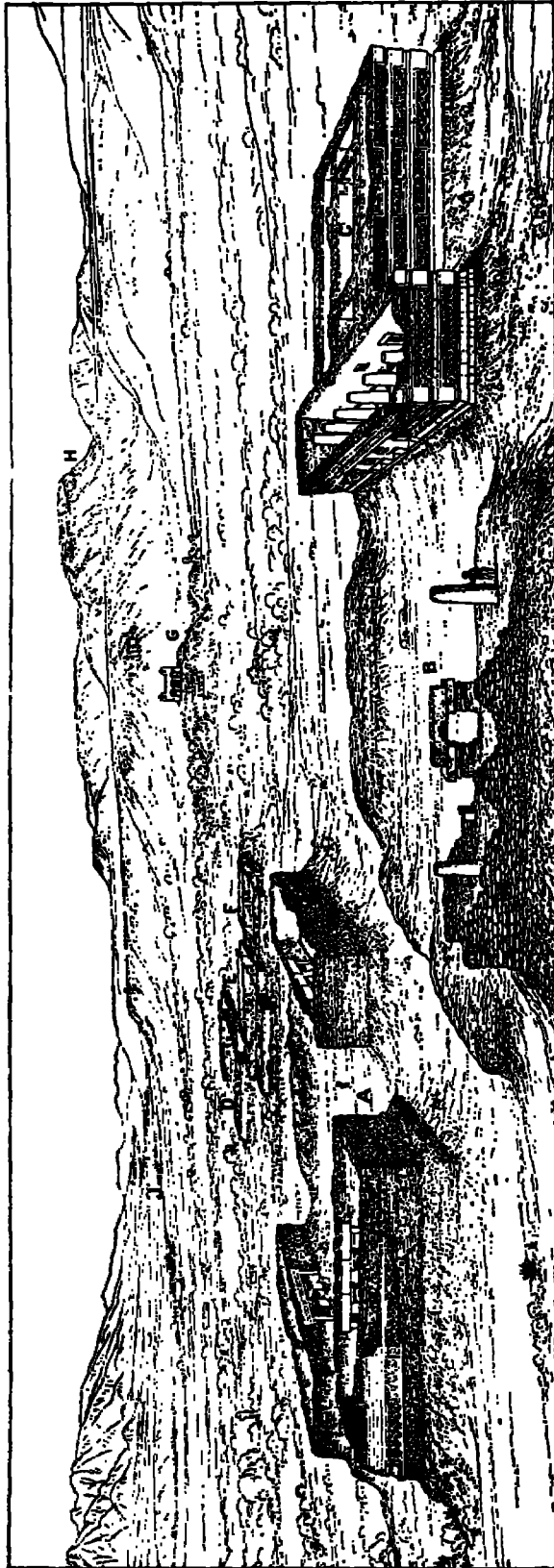
Photo by O. B. Waite

Each kind of merchandise was kept by itself and had its fixed place marked out. Let us begin with the dealers in gold, silver, and precious stones, feathers, mantles, and embroidered goods. Then there were other wares consisting of Indian slaves, both men and women, and I say that they bring as many of them to that great market for sale as the Portuguese bring negroes from Guinea, they brought some along tied to poles, with collars about their necks so that they could not escape, while others they left free. Next there were

traders selling great pieces of cloth and cotton and articles of twisted thread, and sellers of cocoa

There were those who sold cloths of henequen and ropes, and sandals and sweet cooked roots, all kept in the place in the market assigned to them. In another part there were skins of tigers and lions, of otters and jackals, deer and other animals, and badgers and mountain cats, some tanned and some untanned."

This Spanish soldier goes on to tell of the 'beans and sage, fowls and cocks with wattles (i.e.,



WONDER CITY OF THE WESTERN HEMISPHERE—SKETCH-PLAN OF PART OF MOUNTAIN-SURROUNDED MITLA

While less extensive than the remains of Monte Alban or San Juan Teotihuacan, the ruined structures of Mitla, thirty miles east of Oaxaca, are better preserved than those of any other group in Mexico proper. In the above sketch-plan we are looking west. A, B, C, Group of the Columns (A. Quadrangle of the Subterranean Galleries, with the largest lintel stone in Mitla; B. Quadrangle of the Columns; C. Quadrangle of the Columns, or Mosais). D, E, F. Arroyo Group of three quadrangles, containing lintel panels painted in red on a dark grey ground; the gully, or watercourse (arroyo) passing under the east walls and threatening their destruction. G. Adobe Group, on the eastern mound of which is a small Christian chapel. H. Fortified Hill, the summit of which is surrounded by a massive wall of beven stone. J. The Rio Mitla. The original plan shows, to the left, the South Side Group, of two quadrangles, with a massive mound embedded in adobe; and to the right, the Group of the Catholic Establishment, part of which has been built into a church.

From plan by Prof. W. E. Holmes, reproduced from the "Anthropological Series" by courtesy of the Field Columbian Museum, Chicago, U.S.A.

turkeys, which the Europeans had never seen before), rabbits, hares, mallards, and young dogs," sold for food; of the fruit, the great variety of pottery, of "those who sold honey and honey paste, and other dainties like nut paste," and of the venders of lumber, planks, benches, and firewood; of the paper, made of maguey fibre; of the reeds "scented with liquid-ambar, filled with tobacco"; of the yellow ointment, and the cochineal and herbs and salt; of the sellers of stone knives, cunningly flaked from the matrix, and of the section given over to the women who sold fish.

There were for sale also, says Bernal Diaz, axes of brass and tin and copper, and gourds and "gaily-painted jars made of wood." And there was raw gold. "This gold is placed in thin quills of the geese of the country, white quills, so that the gold shows through, and according to the length and thickness of the quills they arrange their accounts with one another, settling the value of so many mantles, or so many gourds of cocoa."

Both Bernal Diaz and the "Anonymous Conqueror" speak of the extreme cleanliness of the temples and courts of ancient Mexico "paved with great white flagstones," or, where paving-stones were not used, the floor was "cemented and burnished and all very clean, so that one could not find any dust or a straw in the whole place." The ordinary dwelling-houses were built, in old Mexico City, of a pinkish stone, and, in a land where cooking is chiefly performed in the open air and no chimneys are required, the flat roof was a family resort and, as it were, a grand stand for days of great ceremonies and events.

Leading to the twin lake cities from the mainland were three great stone-built causeways, connecting the north, south, and west; and from lovely Chapultepec on



HALL THAT GIVES A NAME TO THE 'PALACE OF THE PILLARS' AT MITLA

This hall, entered through doorways in the facade shown in the model in page 928 and the sketch plan in page 920, is 23 feet wide by 125 feet long. The six columns are all about 12 feet in height, about 3 feet in diameter near the deeply fluted base, and taper slightly toward the top. The roof, like part of the top courses of the walls, is missing. Save where they are interrupted by doorways, panels of mosaic surround the building. A single opening gives access to the closed Quadrangle of the Griques, which has four small chambers around it. Round pillars are extremely rare in the original American architecture.

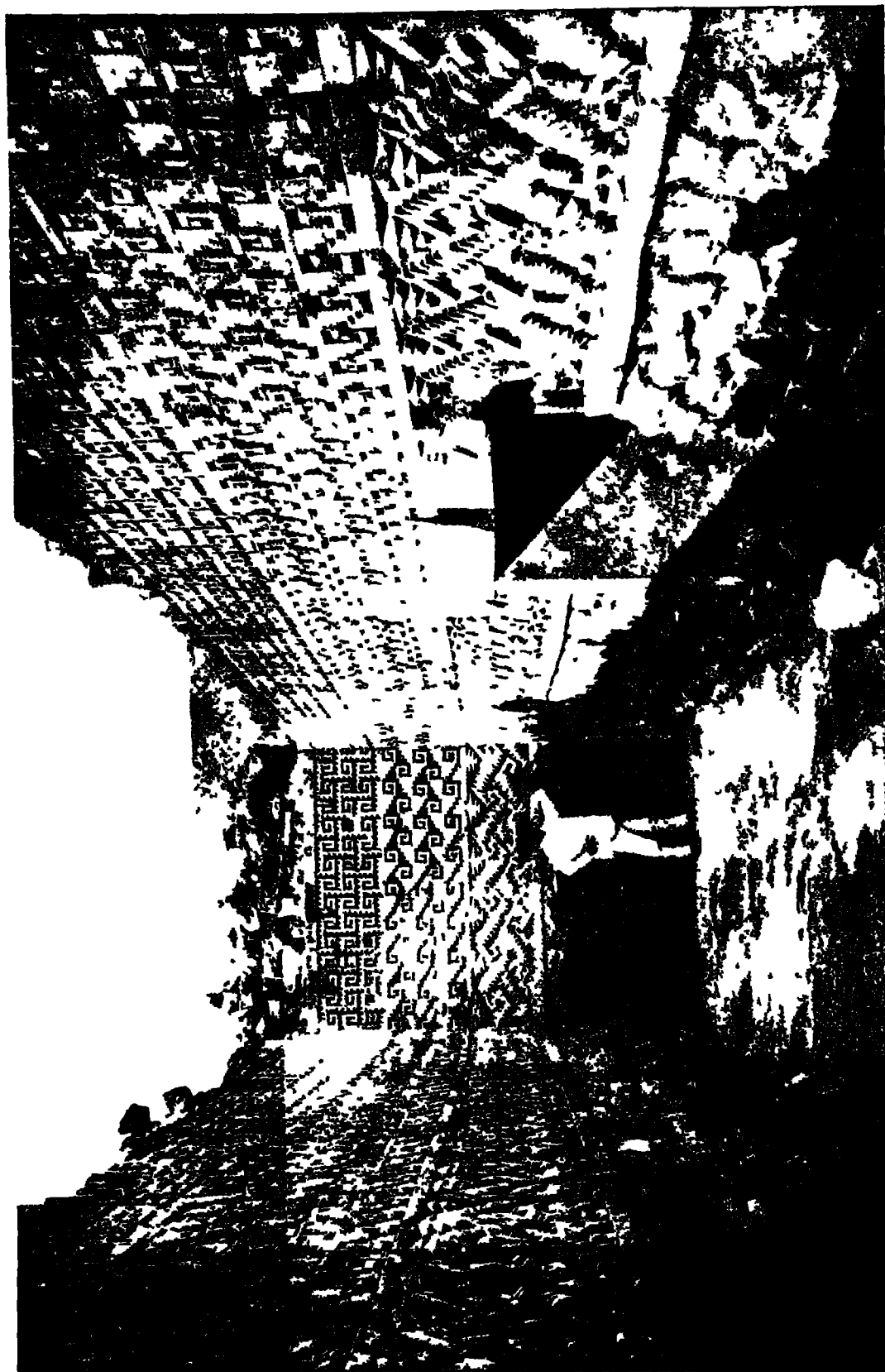
Photo by Underwood Press Service

the mainland, to the west and slightly south, ran the canal that supplied the city folk with fresh water. Drawbridges constructed at intervals along the causeways, permitted the flow of water and the passage of canoes, for the Aztecs were good watermen, and there was a tremendous incessant movement upon the lake of people bringing merchandise to and from the prosperous towns which clustered about the margins of the once widespread sheet of water.

Now Mexico stands upon dry land, for the Spaniards long ago drained the water away, but in the splendid days of the old empire the island city must have been a thing of wonder, a fairy island with its green gardens floating above the sapphire flood, and with the silver-shining tops of the teocallis rising into the radiant sunlight. So the exhausted and marvelling Spaniards saw it

when, climbing the terrible mountains from the burning coasts of Vera Cruz, they topped the crest and first looked down upon the lovely country that they were to ruin. That so great and populous a country should have gone down before a handful of invaders is still astonishing, when one looks upon all the evidences of power, resource, and huge numbers. Cortes had but four hundred and fifteen Spaniards with him, the Aztec empire contained at least ten million people. It is true that the Europeans possessed, in addition to their extraordinary courage, determination, and faith in the holiness of their Christian mission, two great weapons, offensive and defensive instruments, the gun and the horse.

But even with these terrifying advantages, their tiny band might have been quite easily swamped, overwhelmed, or even starved to death, by the



BEST EXTANT EXAMPLE OF THE MOSAIC DECORATION OF AN EARLY ZAPOTEC INTERIOR

This is the west chamber of the interior court of the "Place of the Pillars". The dado is of masonry once smooth finished in plaster. Above it are three bands of geometric mosaic bordered at top and bottom by narrow courses of hewn stone. The doorway on the right leads into the interior court. Wooden beams supported the roof. The outer wall is about 5 feet thick that near the court from 3 to 4 feet thick. The width of the chamber is 8 feet. Entirely geometric the mosaic, panels, display much ingenuity in the varied use of limited motives. Mitl or Vulture is the Mexican name for the sacred city called by the Zapotecs Lyobala, the place of the dead and like Teotihuacan was a place of pilgrimage and burial.



PYRAMID OF THE SUN, SAN JUAN TEOTIHUACAN, THE MOST IMPOSING STRUCTURE OF ANCIENT MEXICO

This vast mound, with its great stairways and terraces, is about 1,000 feet square at the base, about 100 feet square at the summit, with slopes at an angle of about 45 degrees. The height is about 200 feet, and at the summit was a temple. It is built of adobe, the same material with which the peon of to-day constructs his mud shack, but the great weight of the structure has compressed the adobe blocks into a solid mass, which is faced with stone and stucco. It looks down on the "Pathway of the Dead," and adjacent is the "Pyramid of the Moon," while remains of smaller pyramids are arranged near by in orderly series. The sides face the four cardinal points.

Photo by Hugo Brehme

people of Mexico had the latter not been betrayed—doubly betrayed—by subject folk of the country, and by their own faith in the fair god Quetzalcoatl.

Under a glass case in the middle of an upper gallery in the British Museum are three strange masks of mosaic, inlaid with turquoise and obsidian. They are the very symbols of the Aztec's self-betrayal, pathetic and speaking symbols. For these are part of the insignia from the great temple of Quetzalcoatl, and they were sent in childlike faith by the Emperor Montezuma to Hernán Cortés when the Spaniards lay planning their campaign

they that for months the Spaniards were treated as welcome guests, and even when doubts arose among the less religious chieftains and populace, Montezuma insisted upon the sanctity of the strangers, protecting them, obeying them, and at last giving his life for them.

By that time resistance was almost hopeless. The Spaniards had seen the weakness of Mexico from within, had formed invaluable friendships with tributary folk nursing grievances against Aztec domination, and had learned the speech and ideas of the victim land. No single individual



VIEW OF THE LESSER PYRAMIDS OF SAN JUAN TEOTIHUACAN

In the magnitude of its remains and in the evidence the site furnishes of population and antiquity, San Juan Teotihuacan, for centuries a religious centre of the Nahua races of the Mexican plateau, stands easily at the head of the ancient cities of Mexico. "If," says Prof. Holmes, "the entire mass of the ruined structures of Chichen, Uxmal, or Mitla was to be heaped up in a single mound, it would hardly surpass the great Pyramid of the Sun alone in bulk, and the whole bulk of the Teotihuacan remains is many times that of its chief pyramid." The great Pirámide del Sol is seen in the photograph to the left of the restored stepped pyramids that are to be seen in the foreground.

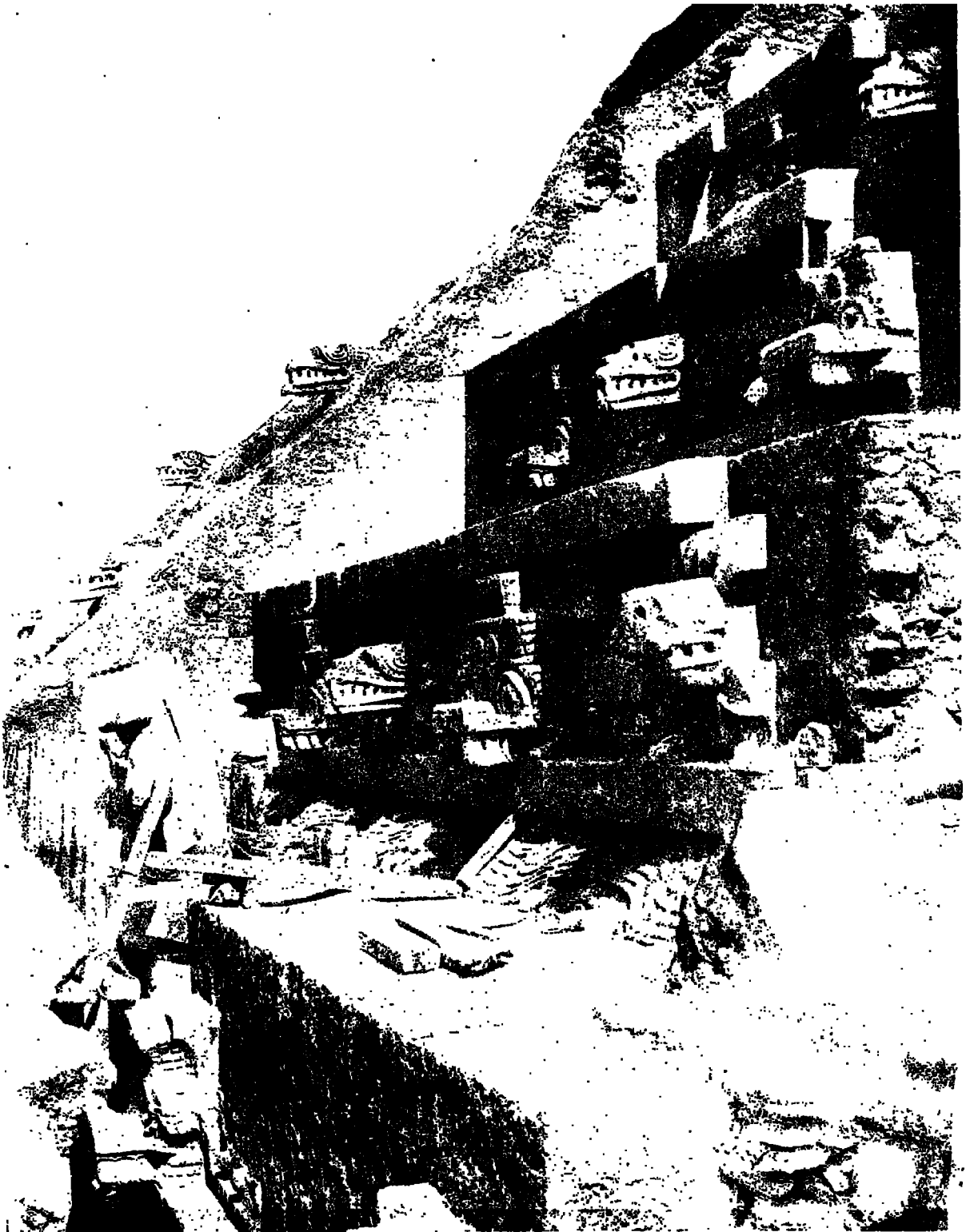
Photo by Hugo Brehms

at the sweltering sand-dunes of Vera Cruz. Quetzalcoatl, the fair god, the gentle god who had come from overseas long ago to teach the hunting, war-like people of Mexico the arts of peace, had sailed away and promised to return some day—in a "ce acatl" month. And by one of the most dramatic coincidences in history it happened that it was during a ce acatl month that the hard-bitten adventurer from Cuba navigated his little marauding fleet to the shores of Mexico.

The look-outs, spying the ships from afar, saw the white sails rising, smooth and square, in geometric progression, like the stepped pyramids of their temples: and they sent runners to the Aztec emperor in his painted palace of the lake city and reported that at last their god Quetzalcoatl was coming back, and that he was bringing his teocallis across the sea. So sure were

contributed more to these friendships and this inner knowledge than that unhappy princess, beautiful and clever Marina, native of that region where women still rule to-day, Tehuantepec. Fascinated by the newcomers, willing to wreck her country for them, she moves across the page of the great tragedy, passed from the arms of one Spaniard to another, mistress, among others, of the great Cortés himself.

Contributory also to the survival of many Spaniards in a score of desperate hand-to-hand contests during even the last agonised stages of the siege of Tenochtitlan was the fixed idea of the Aztecs that their gods, turning their faces from their worshippers, could be appeased only by the blood of living men. To this end they repeatedly lost chances of slaughtering whole bands of Spaniards, and, in the attempt to seize them alive,



ORNATE SCULPTURE OF THE TEMPLE OF THE GOD QUETZALCOATL

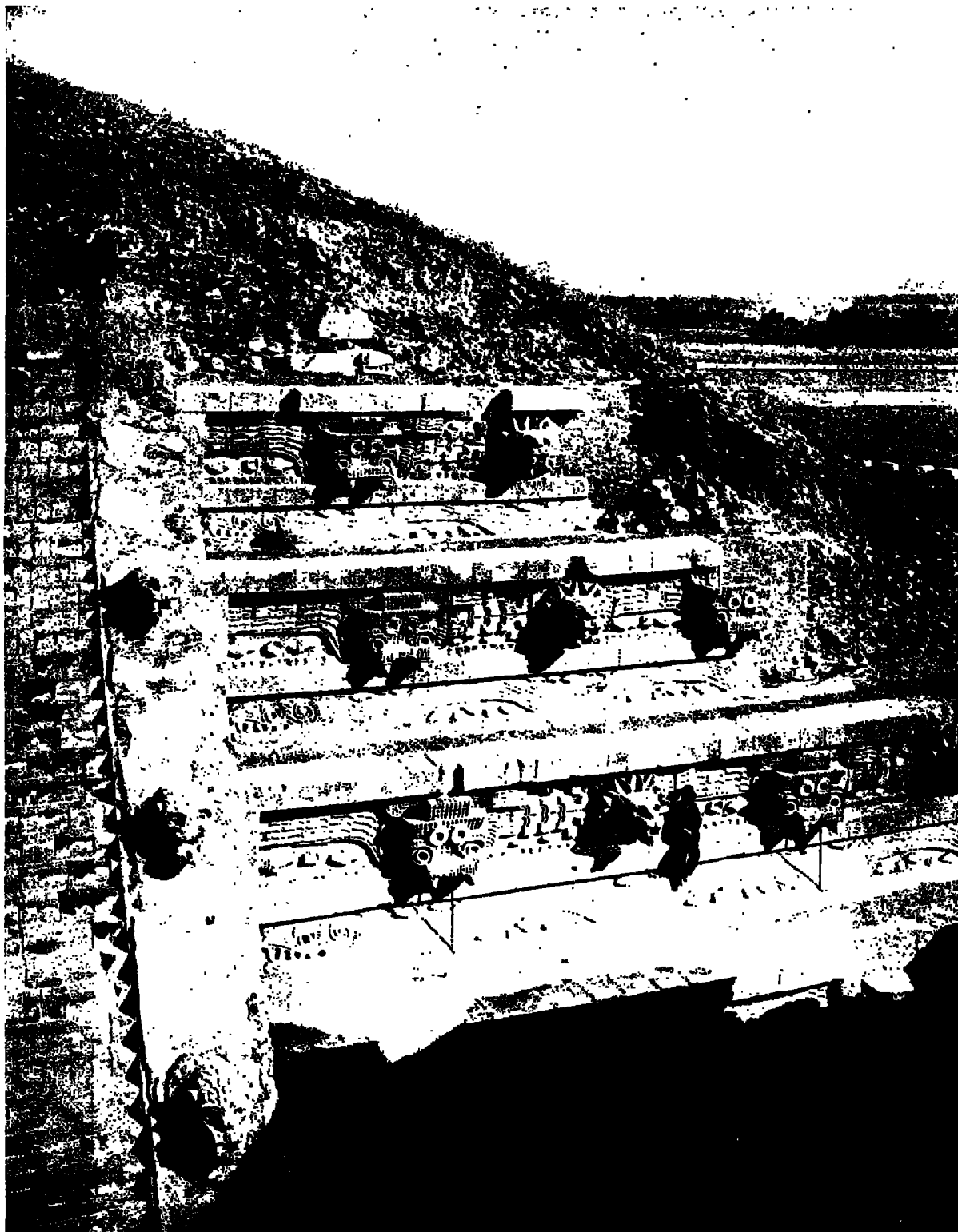
Quetzalcoatl (feathered snake) was the high god of the ancient Mexicans, identified with the Kukulcan of the Maya. He is said to have instructed the natives in agriculture and the arts. Compelled to abandon the country through incurring the wrath of Tezcatlipoca, the Jupiter of the Mexican pantheon, his departure marked the close of the golden age of the Toltec, and the natives were expecting his return when the Spanish conquerors arrived. Among the temples devoted to his worship, those at Cholula and Teotihuacan were the largest and most splendid.



EMBLEM OF EARLY MEXICAN MYTHOLOGY AT SAN JUAN TEOTIHUACAN

The ancient Mexicans worshipped the sun, regarded the moon as his wife and the stars as his sisters. This vigorous example of sculpture at San Juan Teotihuacan shows the Feathered snake which is represented alternately with the Water snake depicted in page 233. The Feathered snake is the emblem of Quetzalcoatl the god of the air and thus of breath and of life. The temple here was founded by Ah-Aztec and was visited periodically by the great Montezumas as an act of pilgrimage.

Photo by Hugo Brehme



LEGEND OF QUETZALCOATL CARVED IN STONE AT SAN JUAN

Part of the decorated front of the Temple of Quetzalcoatl at San Juan Teotihuacan. Here the serpent-heads of the god are prominent. The sea-shells (in red) are symbolical of Quetzalcoatl, because their spiral form typifies the eddies of the wind, with which the god was particularly associated. He is suggested again in the background of carved stone, with its motive of the feathered serpent, the most common representation of Quetzalcoatl as god of the winds or of the air. This Toltec deity needed only fruits and flowers as tribute, but his influence seems to have waned before that of Huitzilopochtli, the war-god of the Aztec, who "devoured the living hearts of men."

Photo by Hugo Brehms

were killed in myriads, their naked bodies cast vainly against the Spanish guns and swords

When the Aztecs were successful in such captures the god received his due, and the Spanish besiegers, watching impotent and furious from afar, saw their companions dragged up the great steps of the *teocalli*, and flung upon the sacrificial stone, they saw the still palpitating heart torn from the body opened by the priest's stone knife. No wonder that, after the prolonged and bloody siege of Mexico was over, the common soldiers needed no behest from their padres in the destruction of the temples. Not until the great temples of Tenochtitlan and Tlatelolco were reduced to ruin, the images of the gods hurled from the summit, the pyramids little more than rubbish heaps and a Christian church set upon the place of the old altars, was the anger of the Spaniards appeased.

The cathedral of Mexico stands to day upon the wreck of the temple of Huizilopochtli with many a carved stone of the old times built into its walls where you may still trace their outlines. In that haste to destroy temples all over the country were wrecked and only here and there some ancient structure perhaps already neglected escaped

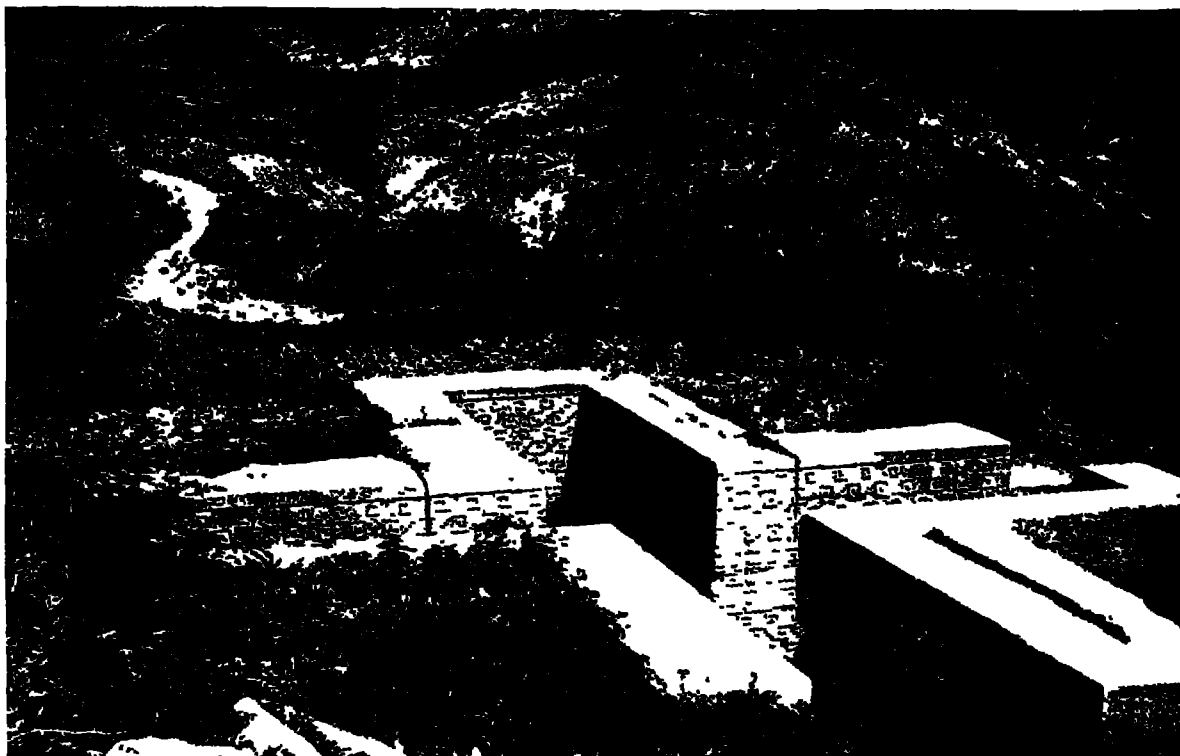
deliberate ruin. Not until the archaeologist began to uncover and make records to search and inquire, among the huge series of Mexican ruins, was any serious interest shown in the origins of the great empire that went down for ever before the hardy adventurers of Cortés.

To day, as I have said already, legends and guesses have woven a story of the Aztec civilization. It is the story of successive waves of migration beating upon a fertile and populous shore. Again and again, throughout history, the poignant story of the rise and fall of civilizations has followed similar outlines. It is the tale of settled dwellers in a fruitful country, developing during years of safety an elaborate culture, attended by delicate arts and crafts, definite social order, and a religion with fixed ceremonial and a powerful priesthood. Presently these folk fall victim to an incoming horde of less civilized people, either nomads or tribes driven from settled lands by economic pressure—that is by hunger—and generally armed with a weapon unknown to their victims who are also at a disadvantage owing to lack of initiative. The agricultural and pastoral problems present the same faces year by year while in contrast the



MEXICAN "POEM IN STONE" PYRAMID TEMPLE OF THE FLOWER-GODDESS, XOCHIQUETZAL

Xochicalco ("the House of Flowers") is one of the few extant monumental structures in the Valley of Mexico. This superb temple of the Toltec period stands on a rocky eminence a few miles from the capital. The temple mound is 75 feet long and 66 feet broad of hewn granite put together by the skilful builders without cement. It was approached on the western side by a flight of steps. The whole of the exterior was faced with stone richly decorated with a design of colossal feathered serpents, emblems of Quetzalcóatl, the coils of which enclose human figures and hieroglyphs.



DECORATED CRUCIFORM TOMB STRUCTURE OF ZAPOTEC MEXICO

Walls of palaces, temples, and tombs of Zapotec Mexico were alike decorated with the characteristic geometrical mosaic ornamentation. The cruciform shape probably bears a relation to the ceremonial regard of the primitive Americans for the four world directions, North, South, East, and West. The same idea underlay the constant arrangement of temple mounds about a square court, in order that each crowning edifice should face a cardinal point.

hunters confront new difficulties day by day, and, trusting to mental and physical agility, develop an acute mother-wit in their struggle with nature.

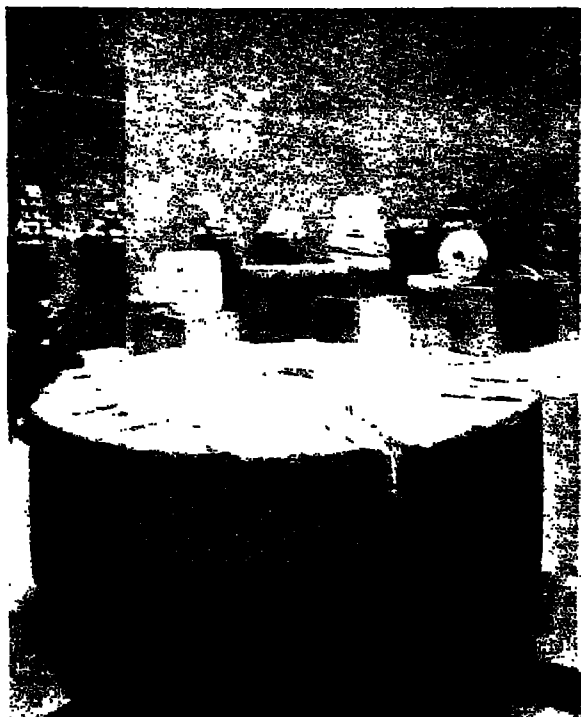
Frequently the invaders appear as a womanless horde, and take girls of the invaded lands to wife, the children learn the speech of the mother, learn worship of the old native gods, who are presently added to the newcomers' pantheon, and in the long run much of the ancient culture survives, strengthened by the ideas of the invaders. Frequently the result of the invasion is an immense artistic impetus, as in the history of Greece.

This story differs widely in detail, and has a score of different settings. One of the most striking in the history of human habitation of the globe is the setting of the valley of Mexico. Here we are able to-day to differentiate between three great periods. The first is called, for want of a better, the Archaic period, and is that of the aboriginal folk whose area of distribution was extremely wide, spreading far outside the Mexican Valley, and embracing the still too little known Panuco region. This Archaic culture presents features which are homogeneous, and it is significant that among the districts of its influence that of the Zapotec possesses no trace of a migration legend. Practically all the Nahuatl people now

included in Mexico cherish such a legend: they say that they came from somewhere else, while the Zapotec folk make no such claim. Here, declares the anthropologist, are the original people.

The second period is that of the so-called Toltec, builders of all the great temples and palaces which are not utterly wrecked to-day. It is clear that here was a great, and perhaps the first, incoming wave of Nahuatl-speaking people, coming from the north and meeting upon the soil of the true natives an attenuated but virile stream of Maya, creeping up for their own mysterious reasons from the south. The result was of tremendous cultural importance. Buildings rose in magic exuberance; painting and sculpture and all the lovely arts and crafts flourished. The Toltec remains are in some regions more than 18 feet in depth—plain evidence of a long life of settled development.

As the third and last great wave, came the Aztecs, who tell their own story clearly in record and tradition. They, too, came from the north: and it may be added here that the Nahuatl tongue can be traced as far north as the State of Montana in the American Union. Perhaps this, or some neighbour region, was the old home of the Aztecs, a hardy fighting, hunting tribe who came armed with the bow, then an unknown weapon in the



WHERE LIVING HEARTS WERE OFFERED

This great stone was probably an excellent example of the most important ceremonial occasions of the Aztecs, or vessel in which the pulsating hearts torn from sacrificial victims were deposited. The depression in the centre represents the opening of the smaller vessel used for less important occasions.

Mexico: National Museum. Photo by C. B. Wallis.

Toltec country. Their brilliant, organized reign had lasted about two hundred years when the Spaniards arrived for, according to the most careful correlation of our system of dating with the Aztec records, their arrival in Tenochtitlan occurred about 1325 A.D. Rapidly these adaptable hunters adopted the simplified calendar which the Maya invented and transmitted to the Toltec. They adopted, too, the gentle god Quetzalcoatl, who is identical with Kukulkan of the Maya, and they, too, began to build splendid cities, to encourage arts and crafts and to organize a prosperous government. They set up wonderful palaces and temples, but they carved no such stela as the Maya had done in the south partly for the reason that, using the simpler system of dating which acknowledged a cycle of only fifty years, no such elaborate calculations and records of calculations were needed.

It was Montezuma I., reigning about 1440, great-grandfather of the tragic friend of Cortés who made the Aztec empire powerful, carrying war into neighbouring countries and forcing

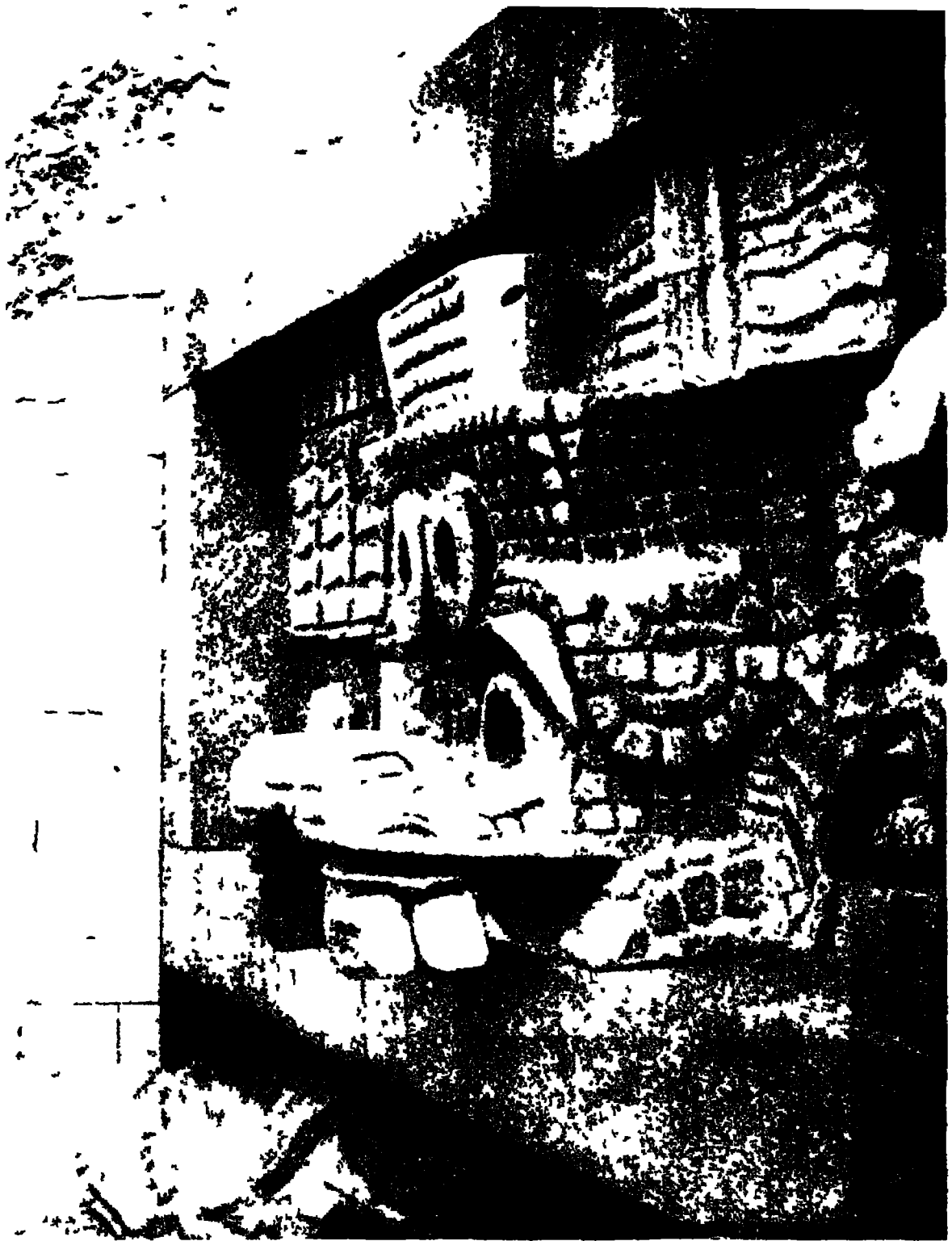
tribute from many tribes far outside the valley of Mexico. Since the fierce Aztec gods needed human blood, no permanent pacification of such tributaries was wanted: a war now and again was part of the social and religious policy. Thus, when the Spaniards appeared in Mexico, they found an extra weapon to their hands in the unrest and hostility to the central power of the outlying tribes. The great Aztec empire crumbled and fell, went down in blood and ashes. To-day we walk among its ruins, reconstructing a magnificence that is unlike any other magnificence, a series of concepts that are like no other concepts, striving to understand a little of the strange genius, born of the Mexican soil, that flowered in such glorious colour, in such splendid generosity, more than four centuries ago.



CALENDAR STONE OF THE AZTECS

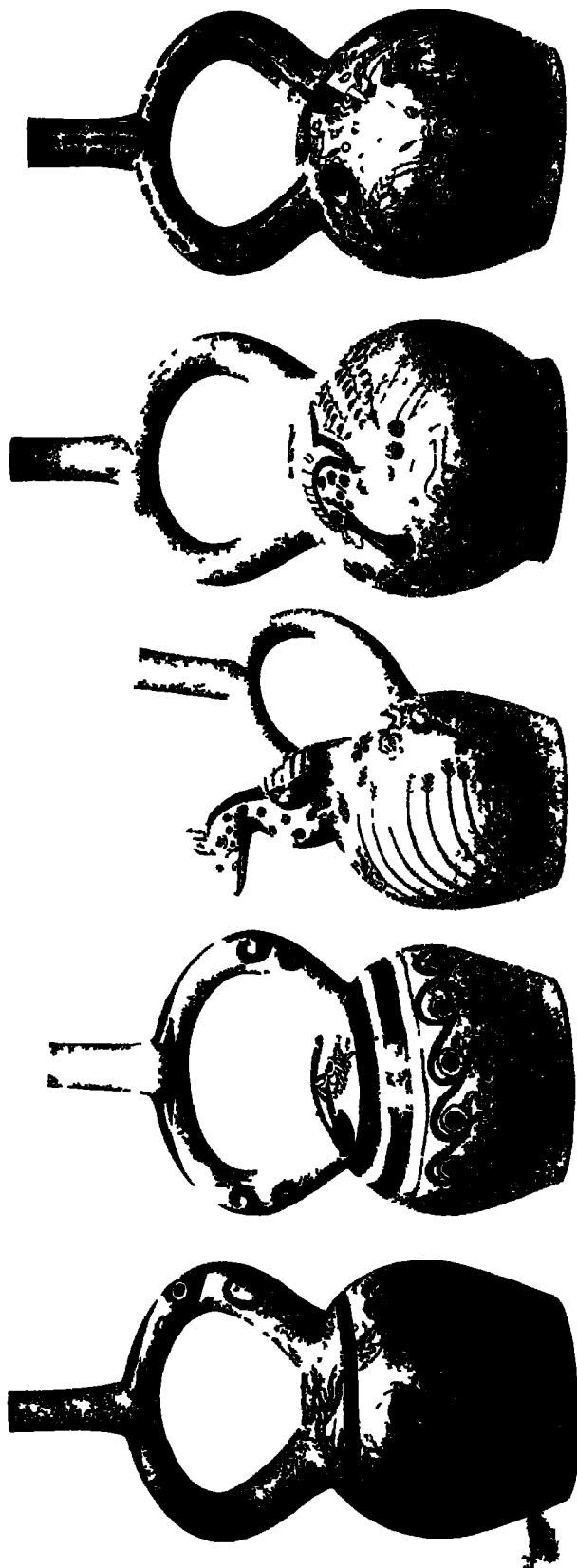
This colossal fragment, upon which are engraved the Aztec day-signs, was discovered in 1790. A huge face in the centre typifies the sun, and the dates representing the "previous creations" of the world are also carved upon the stone.

Mexican National Museum. Photo by C. B. Wallis.



HEAD OF THE WATER-SNAKE ON THE TEMPLE OF QUETZALCOATL AT TEOTIHUACAN

The Temple Mound of Quetzalcoatl, the great god of the Toltec folk who preceded the Aztec in Mexico, was excavated after many centuries of neglect. It is in all probability a thousand years old. In the center of the mound stood a stepped pyramid the "piramide" which are ornamented with relief decorations. One of the most striking representations of the "Water snake" and the "Feathered snake" are the alternate cries typical of the Aztec people. The relief is a fine example of the Aztec art.



THE MASTER POTTERS OF PERU REVELLED IN DESIGNS OF LIVING FORMS

- 1 Owl face, red, emerging from cream-coloured swathing
- 2 Sleeping man, with head resting on crossed arms, he wears a pointed cap, with incised pattern, chin-strap and ear plugs
- 3 Sea lion, carrying a fish in its mouth (red and brown)
- 4 Seated human figure, cream colour, wearing puma headpiece, a metal crescent hangs from the nostrils
- 5 Vase modelled as a monkey, swathed in mummy wrappings
- 6 Vase (cream slip, red on mouth), showing two rows of deer, with antlers and exaggerated ears
- 7 Snake motifs, birds' heads round middle (cream slip red design)
- 8 Modelled water bird sits on vase top, spouted handle turned backwards
- 9 On vase body are painted rushes with herons feeding, and a bird's nest on left
- 10 Pelicans and flowers (red design, cream slip)
- 11 Ceremonial dance, figures, wearing headaddresses, probably representing the animal ancestor of the clan

Ancient Arts and Crafts. VIII.

Marvels of the Potter's Art

2. In South America

By T. Athol Joyce, M.A.

Deputy Keeper, Department of Ethnography, British Museum

BELOW we print a chapter on the exquisite pottery of the early South American civilisations which knew not the wheel; it is only necessary to compare the photographs (which have been specially made by permission of the Trustees from exhibits in the British Museum) with those illustrating the chapter on the pottery of Mediterranean lands (pages 794-801), to realize the tyranny of form which may be exercised by that extremely useful invention — EDITOR

THE practice of fashioning vessels from clay dates from an early period in the history of mankind but, though widespread, it is not associated with every form of human culture. To speak generally, it belongs to the sedentary, agricultural life. Nomadic tribes as a rule do not manufacture pottery, which is too fragile a material to withstand the vicissitudes of a wandering existence. Their vessels are made of basketwork, wood, bark, hide, or even stone.

Where the first pot was fashioned, whether there was one inventor or many, we cannot say, but the moulding and baking of the first clay vessel in any tribe marked a distinct cultural epoch. The second great epoch dates from the invention of the potter's wheel, an appliance which enabled the craftsman to work far more rapidly and to impart to his material a more regular shape. But, important as the wheel may be as a labour and time-saving appliance, its position in the history of art is far less significant than in the history of economics. Art is independent of mechanical aids and, indeed, is often hampered by them. One result of the development of mechanical appliances is that the artisan gets more and more out of touch, and out of sympathy, with

his material, and so the artistic value of his products is impaired. There are few more striking examples of this fact than that afforded by the sheer disharmony of form exhibited by most of the pottery vessels produced by modern civilization. The purpose of this chapter is to illustrate some of the masterpieces in clay moulded by the artist-artisan in communities to which the potter's wheel was unknown.

The scene is the American continent, centuries before the coming of Columbus, where the more sedentary tribes, from the Pueblo Indians of Arizona and New Mexico to the inhabitants of southern Peru, had developed a proficiency in the ceramic art, both technical and artistic, unequalled by any other people at a similar stage of civilization. Throughout the length of the American double continent the principle of the potter's wheel was unknown, and though mould and stamps were employed in the later stages of the art, the present survey is confined to the earlier periods when such appliances were not yet in use.

The date of the earliest wares which display so remarkable a perfection is not very remote in the history of mankind. The master craftsmen among the potters of America lived



PORTRAIT VASE FROM PERU

The craftsmen of the Truxillo region of the Peruvian coast developed, long before the Incas conquered these tribes, a mastery over their material that has never been surpassed. Witness this portrait vase of red clay, beautifully modelled.

somewhere between the first century before Christ and the third century after, and were thus contemporary with the artists of the great Han period in China. But the stage of civilization which formed their cultural environment was far earlier. They were still, for all practical purposes, living in the age of stone. Gold and copper they knew and used for the manufacture of ornaments. But the former is useless as a material for tools while the latter was too rare and too soft to be employed save in exceptional instances for aught but the making of jewelry." But the pottery which these early artists produced in spite of the simplicity of their methods, was obviously the result of long experience and repeated experiment.

It is not a simple matter to produce a finished vase from a lump of clay. The clay itself requires, usually, a definite process of preparation. In most



AN ANCIENT PERUVIAN PIPER

This vase (the spout emerges at the back of the photo) represents a musician of far off days in the sunny Chicama Valley of North Peru. Observe his decorated cap, with its shoulder piece, and details of dress. The piper wears ear and breast ornaments.



THE POTTER TURNS CARICATURIST

A fine example of humorous portraiture by an old potter of the Iruvillo region. This vase is without a handle, and liquid was poured through an opening in the crown of the head. Below the pattern collar red on cream, are cream scrolls on red.

cases the admixture of some levigating substance, sand, powdered potsherds, or the like, is essential, the building of the vase, with uniformly thin walls to ensure consistency in firing, is expert work. Then the baking in an open or, at best, a smothered fire requires the judgement of experience. All these processes imply a long series of experiment, failure, and reinception, and to the mere technique must be added the long training through which alone the fingers can mould the vessel to a harmonious shape, while the question of ornament, especially of painted ornament, carries the question still further, because it implies a knowledge of pigments which will produce the required effect after passing through the ordeal by fire.

As far as we can judge, the aboriginal American potter moulded a thin plate of prepared clay to form the base of his vase, and built up the walls by adding further strips of clay to the edges, working by a spiral process; handles and ornamental details in relief were moulded separately



Left. Jar with stylized birds. Middle. Jar with stylized eyes. Right. Jar with stylized human figures. These are typical of the Nasca pottery. The vessels are made of cream-colored clay and are decorated with red, brown, and black pigments. There is no glazing, but some vessels are fired in a kiln, which gives them a hard, smooth surface.



Left. Jar with stylized human faces. Middle. Jar with stylized human faces. Right. Jar with stylized human faces. These are typical of the Nasca pottery. The vessels are made of cream-colored clay and are decorated with red, brown, and black pigments. There is no glazing, but some vessels are fired in a kiln, which gives them a hard, smooth surface.



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ARTISTIC POTTERY FROM THE CIVILIZATION OF NASCA, SOUTH PERU



SPLENDID PIECE OF PORTRAIT POTTERY

Decisively modelled this old Peruvian portrait is full of character and dignity. The shape of the triple-spouted vessel typical of the Truxillo region and a fine cream slip upon which hands and drapery are painted contrasts admirably with the red brown face above with its humorous expression.

and applied to the body which was then covered with ornament in 'slip' a creamy wash of finely dissolved clay, tintured with various mineral substances which experience had proved would produce the desired result after firing. The finished results, however primitive the method for beauty of shape, spacing of design and occasionally, variety and harmony of colour challenge comparison with the ceramic products of the rest of the world.

For instance, the coastal region of Peru centuries before the Incas rose to power in the highland was peopled by a series of tribes whose artists and craftsmen have had few equals. In their graves, which are supposed to date to the beginning of the Christian era, have been collected pottery vessels fashioned with a skill and decorated with a taste, of the highest order.

There were two "schools" of ceramic art one in the north, in the region of modern Truxillo,

the other in the south, in the region of the Nasca Valley. These schools appear to have been contemporary but there is a very wide difference between them. The Truxillo artist concentrated his energies upon form and modelling, the Nasca artist upon colour. Pots in the early Truxillo style (usually known as 'puto Chimu') fall into two main classes. One consists of a bulbous body with a vertical loop handle surmounted by a perpendicular spout, and this class is usually ornamented with spirited drawings in terra cotta red upon a cream coloured background. This type is interesting for its perfect symmetry and proportions. It was, however, detailed by the local artists with details but one may say with the best of it and the early traditions were forgotten in the new water supply upon which rests which had to be once in



PERUVIAN MUMMY WITH PUMA CREST

This old Peruvian mummy with its puma crest seems to represent a mummy of a very high rank. The wrapping and weaving of the mummy are all of the best quality. The mummy is shown in a sitting position, with its hands crossed in front of it. The puma crest is a very important feature of the mummy, and it is a symbol of power and authority. The mummy is a very well-preserved artifact, and it is a valuable addition to the collection of Peruvian mummies.

the mountains. The water problem was serious and water was precious. Hence a water-vessel with a narrow mouth was essential, in order to minimise evaporation. But pouring from a single narrow spout is a slow process, because the air cannot enter readily. The loop-handle with its double channel provided the answer, and furthermore provided a convenient means of attachment to a belt.

The other class is the modelled ware, and in this the peculiar genius of the Truxillo artist manifested itself. The form is infinite in variety; upon the exquisite vessels are represented the figures of men and women, often engaged in various occupations, moulding pots, or perhaps playing musical instruments; while others display animals, birds, fish, insects, and various fruit and vegetables. Most American art is highly conventionalised, but here we have a most astounding realism. Many of the human figures are so alive that they must have been portraits. We can see what manner of men these vanished artists were; we can reconstruct their clothes and ornaments, we can catalogue their weapons, musical instruments, and the implements of their crafts, their dwellings and their food, we can even gather dimly some ideas of their religious beliefs. But in the finer specimens it is the astounding realism, and often the humour, which is the most striking feature.

The necessity for a narrow-mouthed water-vessel was equally pressing for the inhabitants of the Nasca region, but they solved the problem by fitting their bottles with two narrow spouts, connected by a solid band which served as a handle. At the same time the beaker and bowl form was common in that area. Modelled work is rare and not of high excellence, but the feature which distinguishes the ware of Nasca is constituted by the variety and purity of the slip-colours employed in decoration and the vigour of the designs. It is a fair statement that no people at a similar stage of civilization have had at their command such a variety of colours, applied to pottery, as the clay-workers of Nasca.

Common in the Truxillo region, though less frequent at Nasca, are vases fitted with a whistle, which is sounded by the air rushing in as the water is poured out. The principle is exactly the same as in the modern whistling kettle, which can thus claim relationship with these more beautiful vessels so far removed in time and place.

The inhabitants of the southern continent were not alone among the American aborigines in producing beautiful vases by hand alone. The natives of Costa Rica and Panama were also skilful potters; the founders of a great culture in

Guatemala which extended south and north into Honduras and the southern states of Mexico respectively (see pages 217-231), also made fine painted vases, though not so harmonious in shape. Further north, in Mexico, under the influence of the Toltec, a people strongly affected by the Maya civilization, several "schools" of ceramic art grew up, the products of which are truly admirable, both technically and artistically. These are probably later than the Peruvian wares discussed above, dating as they do from about the eighth century of our era. But they are surprising in the elegance of their forms, their coloured slip decoration and, frequently, their resplendent burnish.

Especially remarkable are the bowls and footed beakers moulded by the Totonac, a people of Maya affinities inhabiting Vera Cruz, who at

the time of the Spanish conquest were tributary to the invading Aztec. Many of their vases are so perfect in shape that it is difficult to believe that the Totonac potters had no knowledge of the wheel.

Nearer to Mexico city itself, in the state of Puebla, which had been occupied by a large proportion of the Toltec driven from the Mexican Valley by the Aztec, was another important pottery industry. The ware of Puebla is distinguished by the richness of its colouring, the favourite colours being a deep orange, red, and black. The vessels of such beauty of form and colour, produced by such primitive means, are not the least among the wonders of the past.



WARRIOR OF 2,000 YEARS AGO

This vase from the Chicama Valley, moulded in low relief, painted in cream, outlined red, on a dark red ground, shows a fighter, armed with spear-thrower and spear, wearing punia heads on belt and head dress, being carried off by his successful opponent.

Temples of the Gods. XX.

The Gods of Ancient Rome

By W. R. Halliday, M.A., B.Litt., Hon. LL.D.

Principal of King's College, London; author of "Greek Divination, etc."

WHEN the Latins came into contact with the civilization of Greece, the Latin gods took on the nature and attributes of the Greek gods, giving them their names in exchange. And though some gods (such as Janus) remained purely native, while in other cases (Zeus-Jupiter) the identification was etymologically justified, for the most part the process was quite arbitrary. When it is further added that the plastic representation of the gods began after the process was complete, the difficulties of adequately illustrating this chapter will be realized. In order to prevent its being pictorially a repetition of Prof. Halliday's study on "The Gods of Ancient Greece," only those (sometimes minor) deities have been selected who preserved or acquired a Latin flavour.—EDITOR.

THE Latin word "religio," from which our "religion" is derived, originally meant the feeling of awe with which the early Italian regarded the inexplicable element in natural phenomena. The menace of the forest or the terror inspired by the lightning made him conscious that his existence was affected by the activity of powers which were beyond his understanding and control. The mystery of less dramatic processes of nature also attracted his attention. Some agency, he felt, was operative in causing the corn which he put into the ground to grow and multiply. Indeed, into every action of his there entered some incalculable element beyond his personal control which made that action effective or ineffective. It therefore became advisable to secure the cooperation and to avert the opposition of these agencies. Thus "religio" developed its secondary meaning of the performance of ritual duties necessary to secure this important result.

If the Greeks were a race of artists, the Romans were a race of lawyers, severely practical in their intellectual outlook and curiously capable of

abstract conceptions. These supernatural agencies, which were called "numina," can hardly be termed gods, for they were impersonal as well as incorporeal. Their worshippers had little intellectual curiosity, and in fact displayed no interest in them apart from their activity. They invented

no mythological stories about them, and constructed no cosmogony or story of how things came to be. They were concerned only with their relation to these unseen powers as it affected their practical actions and affairs. This relation was regarded as based upon an unwritten contract, and it was assumed that if the appropriate rites were performed in exactly the proper way, the "numen" concerned would do its duty by the human beings who had adequately performed theirs. Upon the maintenance of right relations with the unseen powers depended the welfare of the family, the farm, and the State, and it was therefore the duty of the authorities respectively responsible for these social groups to ensure the fulfilment of the human side of the contract.

Of special importance to the welfare of the



JUPITER, HEAD OF THE ROMAN PANTHEON
Jupiter Optimus Maximus (Greatest and Best), although identified with Zeus, kept his individuality as father of the Roman State. Nevertheless, the eagle and the three-headed dog Cerberus, which mark him here as ruler of the world above and the world below, are both Greek attributes.
By permission of the Trustees of the British Museum

family were Janus, the power of the door, which guarded the breach in the defences of the home through which material or spiritual harm might enter, and Vesta, the power of the family hearth, with which were associated Penates, the powers of the "penus" or store-cupboard. The procreative life force, which enabled the family to persist continuously through its successive generations, was worshipped as Genius, a power which was intelligibly regarded as being peculiarly manifest at a given moment in the head of the family at that time. The worship of the Lar Familiaris, which is often, but wrongly, thought to have originated in the worship of dead ancestors, came into the house with the farm hands. The Lar was originally the power associated with the farmer's holding, and represented the "luck" of the family on the material side. Eventually, under Greek influences, all these "numina" came to be

thought of as spirits possessing personality and sex, who could be appropriately represented by art in human form; originally, however, they seem to have been regarded as abstract, impersonal, and incorporeal powers associated with the objects or functions above enumerated.

Throughout the year a regular series of ceremonies secured the assistance or averted the obstruction of the various powers connected with the seasonal activities of the farmer. Of these we have a record in the early religious calendar, which represents the adaptation and organization of the ritual of the household and the farm to meet the needs of the community as a whole. The State, like the family, had its doorway, Janus, and its sacred hearth, Vesta, the fire upon which was tended by the daughters of the king, the Vestal Virgins, just as the family hearth was tended by the unmarried daughters of the house.

In May the farmer drove triple victims of sacrifice (a pig, a sheep, and a steer) in a procession of purification round the limits of his holding. The State similarly purified the boundaries of the city and its territory. Similar ceremonies, indeed, have survived in modern Europe in the Rogation Processions of the Roman Church and in the practice, still observed in many parishes in England, of the annual "beating of the bounds."

The organization of religion by the State was the logical consequence of the legal attitude of the early Roman towards the unknown. The successful issue of religious acts depended, in his view, upon a meticulous accuracy in their performance. This should therefore be entrusted to the expert, who alone had the necessary knowledge. The layman's part was to avoid any action which would interfere with the professional's activities upon his behalf. It is for this reason that the calendar was published, and that every month the religious authorities announced what festivals would take place, and upon what days secular business was lawful or unlawful; for a secular transaction upon a holy day would destroy the efficacy of its rites, and seriously threaten the relations of the whole community with the unseen powers.

It will be observed that this religious attitude, although it imposes the salutary discipline of the regular observance of religious duty, is ethically weak. The authorities assume undisputed control of public worship, and with it complete responsibility which, except for the negative duty of non-interference, is thus shifted from the shoulders of the layman. The qualification demanded of the religious authority is not holiness, but expert knowledge. In consequence the Pontiffs, who controlled religious administration, could and did combine their sacred duties with the tenure of the



MARS, THE GOD OF WAR AND HUSBANDRY

Mars was identified with Ares, but, as the father of Romulus and Remus, was a greater god at Rome than ever Ares was in Greece. This is the famous Ludovisi Ares, after the manner of Lysippus; the little Cupid refers to his connexion with Venus (Aphrodite), of importance as the mother of Aeneas.

Museo Nazionale delle Terme Rome Photo by Anderson

highest secular magistrates of State. Again the religion of the community was thus early organized into a stereotyped system, which was highly specialised inasmuch as it was concerned with a community the interests of which were still purely agricultural. Rome did not remain a community of peasant farmers, but the rigid system was incapable of organic development, and it followed that her new needs were met, not by growth from within, but by supplement from without.

Under the later monarchy (sixth century B.C.) Etruscan influences became dominant in Rome, which then acquired a new commercial and political importance. Temples were now constructed for gods, who were conceived as divine personalities and were represented by art in human form. With the immigration of foreign artificers came Minerva, the patroness of handicraft; for Diana, whose worship had formed a religious bond between the cities of Latium, was built a new temple in Rome, which had now become the head of the Latin League, upon the Capitol was constructed the temple of Jupiter Greatest and Best, the patron deity of a State which was prepared to assert its political claim to be greater and better than its neighbours. It has been said with some truth that at this stage "a religion of patriotism was substituted for a religion of physical increase."

As the commercial and political interests of Rome extended her pantheon was increased by the addition of the local deities of allied or conquered communities. It was not an unusual practice to "evoke" the native deity of a beleaguered city by a solemn promise that, in the event of the god coming over to the side of the besiegers, his cult would be officially established in Rome after the capture of the town. The decision in particular cases, whether or not the worship of a foreign god should be adopted, lay with the Senate and the College of Pontiffs, who strictly controlled religious administration.

Both the Etruscan and Latin cities had been profoundly influenced by the civilization of the Greek cities of Southern Italy, and much of the religion which Rome borrowed from these sources was Greek at second hand. Already, however, under the monarchy Greek influences became directly active. A legend told how an old crone presented herself before the last of the Tarquins and offered nine books for sale at a prohibitive price. When the king refused her offer, she burned three and offered six at the same preposterous figure. The king again refused, three more were burned and the same price demanded for the surviving three. The king, impressed by this remarkable method of bargaining, secured the documents. The crone had been none other than



FORTUNA, THE BENEFICENT GODDESS

Tyche, the Greek personification of luck, good or bad, became as Fortuna a deity of much greater importance. Leaving her capricious wheel and assuming the Cornucopia, she is now the goddess of Good Fortune, and of the Destiny of Rome.

the Sibyl, a Greek prophetess who inhabited the oracular cave at Cumae, the oldest of the Greek settlements upon the Bay of Naples, and the documents purchased were the Sibylline Books.

The use of these prophetic writings was strictly controlled by the State, but in the event of some grave national difficulty, e.g., the occurrence of a plague or famine, they were officially consulted as to the appropriate measures necessary to avert the manifest displeasure of heaven. Upon such occasions the Sibylline Books usually recommended the adoption of Greek deities and Greek rites, and thus powerfully promoted the assimilation of Hellenism by Rome. Italian gods were identified with Greek deities. Minerva, for instance, was equated with Athene, Diana with Artemis, Juno

development, was now inevitably out of touch with life. Even the language of its formulae was unintelligible. It survived mainly as an obsolete piece of State machinery, which could be exploited by political wire-pullers. Again, prolonged direct contact with Greek civilization had profoundly modified Roman character. In particular the influence of Greek philosophy, which at the time of its contact with Rome was passing through a severely rational and even rationalistic phase, was iconoclastic and sceptical. It destroyed conservative respect for irrational tradition and it exposed the puerilities of mythology or explained them away as allegorical representations of natural phenomena or philosophic theories. Neither the original nor the added elements in Roman religion attempted to satisfy the needs of individualism and the craving for personal survival after death.

In general, the last century B.C. was a sceptical period. A President of the College of Pontiffs himself declared that religion was composed of three kinds: (1) mythology, which consisted of the purely ornamental fictions of the poets, (2) philosophy; (3) the religious ceremonies of the State, which existed solely to provide the statesman with an instrument for managing the ignorant proletariat. It is not surprising, therefore, that at the close of the Republican period temples were falling into decay, and it was impossible to fill such of the higher religious offices as conferred no political power on their holders.

In the first centuries of our era, however, scepticism gave place to credulity. In philosophy itself a revival of Platonic influences laid a renewed emphasis upon the immortality of the soul, borrowed the physics of a geo-centric astrology, affirmed the existence of a countless host of intermediate spiritual agencies, and sought for a method of approach to the Good in a mysticism which transcended reason. The increased vogue of vulgar superstitions and the popularity of all kinds of magic and wonder-working bear similar witness to this change of temper.

In the meantime, however, a last attempt was made to restore the old order by Augustus (31 B.C.—A.D. 14), who hoped thereby to secure a religious sanction for his new political regime, and to recapture something of the old Roman discipline and simplicity. He rebuilt old temples, restored old priesthoods, and revived old ceremonies. But into bones so dry no life could now be breathed. It is significant that the most far-reaching of his innovations, emperor-worship, was not a restoration but an addition borrowed from the Graeco-Oriental culture of the Levant. Not only did it become the rule to offer divine honours to emperors after their death, but throughout the provinces

the worship of Augustus and Roma—i.e., the reigning emperor and the imperial might of Rome, was officially celebrated. In Italy direct worship of the person of the living emperor was forbidden.

The attitude of the Roman State towards Eastern cults during the Republican period remained upon the whole hostile, not upon grounds of religious intolerance so much as from political distrust of secret associations and a dislike for the excesses of emotional rituals, which in some cases amounted to offences against public morality.



POMONA, LOVELY MAID OF THE ORCHARDS

As Flora typified the flower of spring, so Pomona the fruits of autumn. The goddess of orchards, she is represented with fruit and laden boughs. These names are typical of early Roman religion little more than distillation of the Latin words for flower (*flos*) and apple (*malum*).

The Uffizi Gallery, Florence. Photo by Alinari

Thus between 59 and 48 B.C. no less than five attempts were made to suppress the cult of Isis, which had entered Italy with the merchants of Egypt. But in fact the Oriental cults had come to stay, and the number of their adherents steadily increased even under the Republic. During the early Principate Egyptian Isis received official recognition, and in the third century the cults of Syrian Baal and Persian Mithras, both of which were associated with solar monotheism, in turn enjoyed the patronage of Roman emperors.

The appeal of the various Oriental cults rested mainly upon characteristics common to all. They addressed themselves to the individual soul. They preached a gospel of expiation and redemption, and held out hopes of obtaining posthumous bliss through the performance of religious duty. They based their doctrines upon a religious philosophy which, if the premises were conceded, gave an intelligible basis to their claims. They appealed by ceremonial and mystery to the sensuous element in religious psychology.

Of these religions the most serious rival of Christianity appeared at one time to be Mithraism. It was a composite religion, with its roots in the

worship of the old prehistoric Indo-Iranian peoples. It had been modified by Zoroastrian, Babylonian, and Hellenic influences. Mithras, a divinity of light, had endured upon earth a life of beneficent toil, fighting on the side of Good against the Power of Evil. Human life is a battlefield, in which man, with Mithras at his side, is similarly engaged in warfare on the side of Light against Darkness. After death Mithras, the Mediator, will preside at the judgement of his soul, which, if acquitted, will pass upward through the seven planetary spheres, shedding at each stage a part of its mortal impurities, until at the end it is absorbed into Eternal Light. Purity, truth, fortitude, endurance, and renunciation were the virtues upon which this soldiers' creed laid emphasis.

Its chapels are found wherever Roman legionaries were stationed. They consisted of natural caves or vaulted subterranean chambers with a central nave flanked by benches, and invariably adorned with a representation of Mithras slaying the bull from the blood of which originated all forms of life. Each community was united in a close solidarity; its head was called Father of Fathers and the members addressed each other

as Brother. There were seven progressive grades of initiation, Ravens, Hidden Ones, Soldiers, Lions, Persians, Runners of the Sun, and Fathers, and the members wore costumes or masks corresponding to the names of their grade. The first three grades consisted of lay members, only after reaching the grade of a Lion did the initiate become a full participant. Baptism, sealing with a brand, and a variety of tests and symbolic renunciations figured in the initiatory rites, and one of their ceremonies commemorated in a sacred meal that of which Mithras partook with the Sun immediately before his departure from earth. The many curious, though for the most part accidental, resemblances to early Christianity, indeed, lent a special violence to the attacks of the Christian Fathers, who regarded Mithraism as a diabolically inspired parody of the True Faith.



MITHRAS, GOD OF LIGHT, PERFORMS THE MYSTIC SACRIFICE

Mithras, originally a Persian sun-god of Zoroastrian characteristics, became of great importance in the Roman world, especially with the army, during the late Empire. Carried worldwide by the far-flung legions, his was a religion that resembled Christianity too much, and was therefore bitterly persecuted by the Early Fathers, until, with the crumbling of Rome's military power, it finally passed away completely.

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Ancient Arts and Crafts. IX.

The Story of the First Ships

By Donald A. Mackenzie

Author of "Egyptian Myth and Legend," etc.

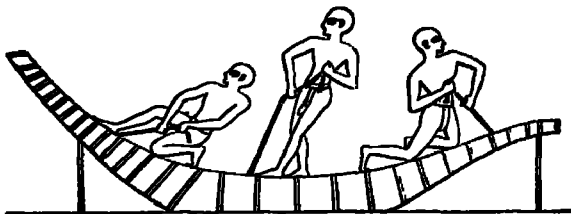
THE invention of the boat in ancient times was as wonderful an achievement as the invention in our own day of the aeroplane. Early man in the course of his experiments—for he must have conducted experiments—had to devote to his self-imposed task much thought and energy, and had perforce to face with patient determination many disappointments and, no doubt, the ridicule of his fellows as well, before he acquired the requisite knowledge of the arbitrary shape and proportions which give a boat perfect balance in the water.

It must have been sheer necessity which prompted the ancient inventor to solve the problem of boat construction and so advance the cause of human progress. Rivers had to be crossed, and it is unlikely that these were ventured upon merely for recreation and amusement. Indeed, in those countries which in ancient times were haunted by numerous crocodiles and hippopotami, the crossing of rivers must ever have been attended by grave risks to human life.

The swimming habit appears to have been acquired at an early period in human history. No doubt floats of various kinds were in constant use. At any rate, floats in the form of inflated skins still found favour in Mesopotamia long after boats had been invented. An Assyrian sculptured scene of special interest shows a number of soldiers swimming across the River Euphrates supported by skin bladders. Some Asiatic peoples continue to utilise similar contrivances for crossing rivers. Round basket-like floats called "kufas" mark

another stage in early man's efforts to cross a river in safety and with comfort. These were favoured by the ancient Babylonians and are still popular "ferry boats" on the Tigris and Euphrates. The kufa was unknown in ancient Egypt; but the Egyptians, like the Babylonians, made use of rafts which were sometimes fitted with skin floats to increase their buoyancy. The river-boat and the sea-going ship were not, however, developed from skin float or kufa, or from the raft. It was an independent invention which superseded earlier contrivances impossible of further development, just as the aeroplane has in our own day superseded the old-fashioned pear-shaped gas balloon to which it really owes nothing.

Certain writers have assumed that the earliest boat was made from the trunk of a tree, and it has been suggested that when trees were seen drifting down swollen rivers the idea occurred to some ancient thoughtful observer that if he hollowed one, he could sit in it and paddle down or across a river at his ease. But it is highly improbable that early man ever saw a boat in an upright or fallen tree. If he chanced to step on a tree which had drifted down a river, he would find that it has a tendency to roll round and immerse an adventurer. It is unlikely, too, that the first boat-builder undertook the laborious task of attempting to shape and hollow the trunk of a tree so as to discover how it could be made to maintain an upright position in the water after his weight had been placed upon it. It seems clear, therefore, that early man never imagined



ANCIENT EGYPTIAN BOAT-BUILDERS LED THE WORLD

The first boats were not hollowed out tree trunks. After first relying on simple papyrus reed floats the ancient Egyptians discovered a means of binding their reed bundles together into a graceful boat-like shape, as the left hand illustration from a tomb of the pyramid age will show; hence the Egyptian name for a boat—the "binding." The right-hand illustration from the Theban tomb of Khem, a Thinite noble, shows a dug out being hollowed on lines already determined by the "binding."

Right: From Wilkinson's "The Ancient Egyptians"

a wooden boat of the 'dug out' order until one of lighter material had first been invented

Such sea turns as the 'skin of a boat' and the 'seams of a boat' suggest that before boats were shaped from wood they were made of skins which were sewn together. But there were even earlier boats than skin boats and it is possible for

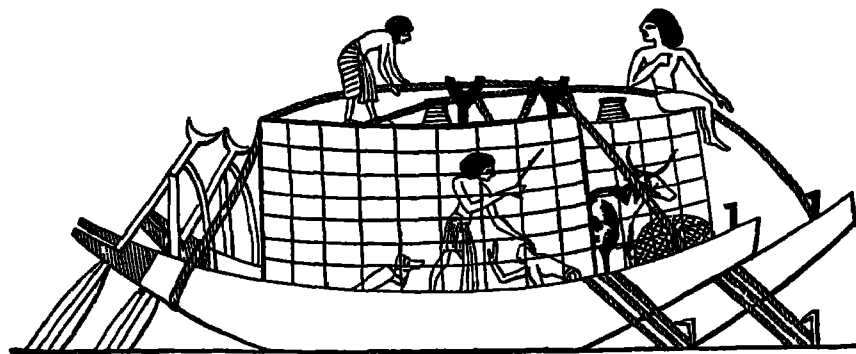
paddles as ultimately the fish's tail did the position and use of the double or single steering oar

The earliest boats worthy of the name, were those that plied on the River Nile. Pliny, writing in the first century of our era, informs us of the tradition prevalent in his time that ships were first invented in Egypt and were made from

papyrus (Book vii chap 56). The more abundant evidence now available tends to confirm that view. Every stage in boat-building is represented in the wonderful tombs of the country of the Pharaohs. In addition to pictures sculptured representations and models of a great variety of vessels there are inscribed texts which throw light on the origin and growth of boat building in ancient Egypt which because it remembered is a treeless country.

At an early period the "reed float" was used

on the Nile, it is still as much favoured by peasants in Middle and Upper Egypt as it was by their ancestors sixty centuries ago. From this primitive float the modern sea going vessel was gradually evolved. The most ancient literary references to reed floats are found in the Pyramid Texts, which date back to about 2700 B.C. It had been imagined by the early Nilotic peoples

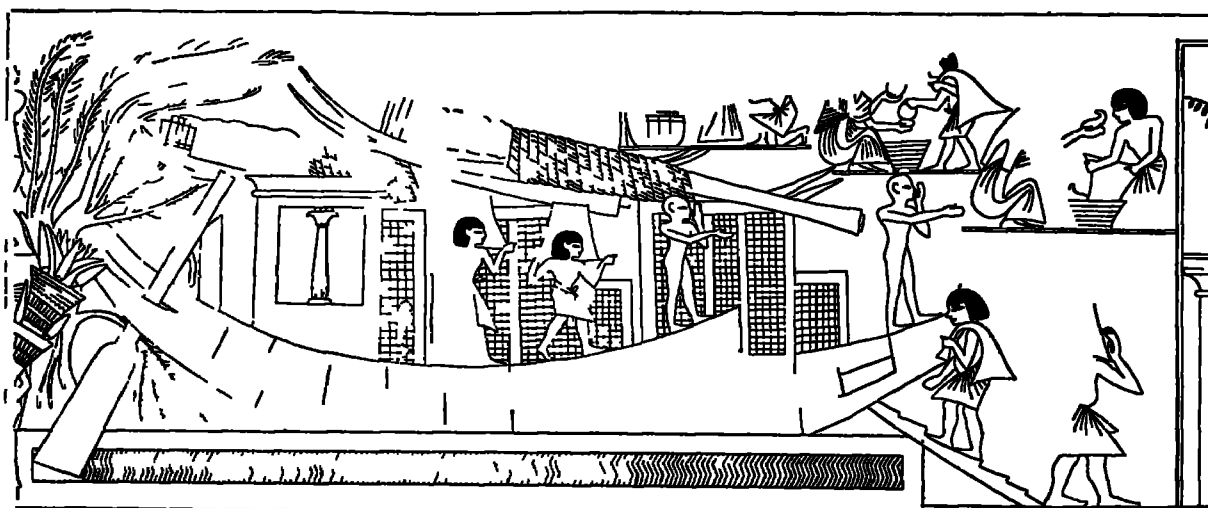


EGYPTIAN LIGHTERS HAD CABINS BOUND ON WITH ROPE

An illustration in the tomb of a noble at Thebes shows that the cabins on the Nile going vessels of Egypt were frequently very large and if intended for cattle freightage built of open lattice work. We see two boats moored to the bank, in the farther one is a cow with a pile of some kind, in the nearer a dog and a slave being chastised for negligence.

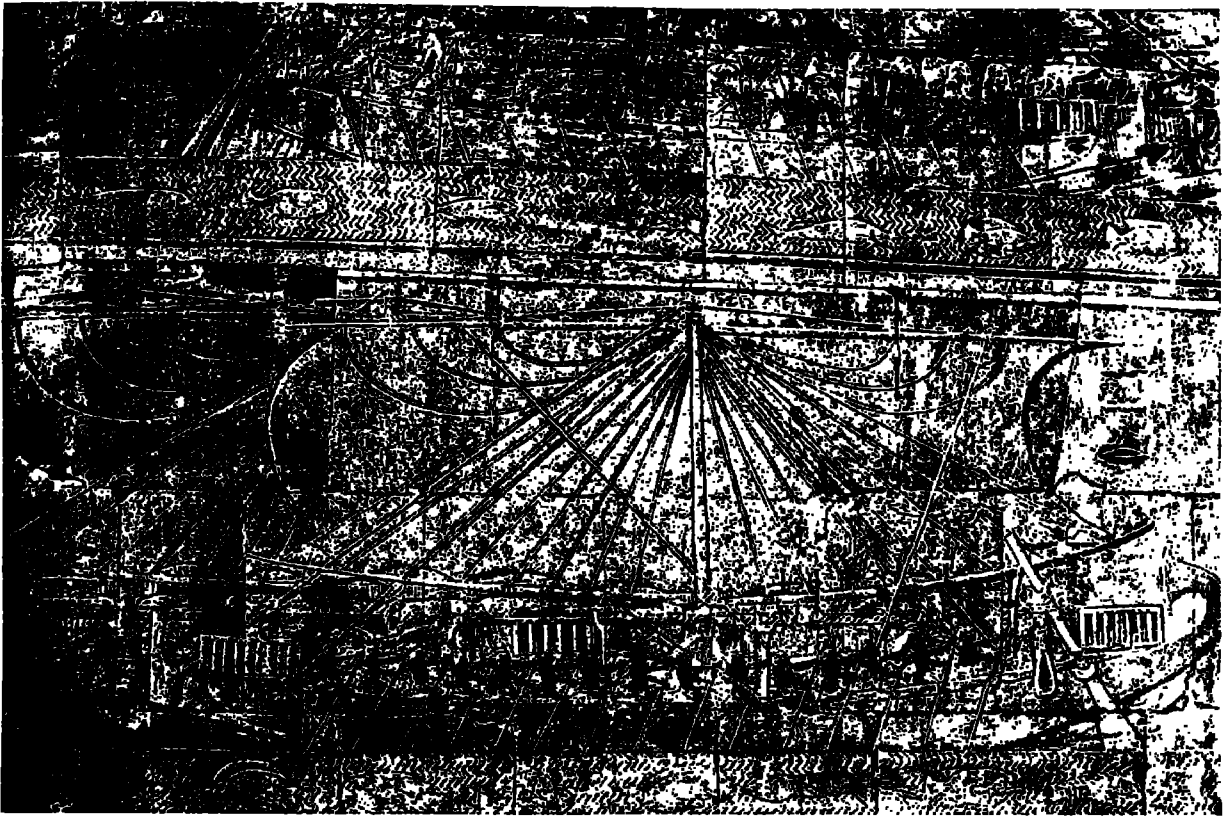
From Wilkinson's The Ancients Egyptians

us to study them in surviving pictures and models so as to ascertain how the first real boat came into existence. These early boats suggest an ingenious combination of a fish and a bird. The fore part has fish-like lines, the stern resembles the overhanging hind parts of a swimming sea bird. Evidently the inventor had gone to nature for suggestions and guidance. The duck's feet suggested



ROOMY SAILING VESSELS IN WHICH EGYPTIAN NOBLES VOYAGED ON THE NILE

This picture from the tomb at Desr el Medinet of Anpu, a graiver in the reign of Rameses II gives us a homely glimpse of Egyptian life. As in the illustration at the top of the page two boats are moored to the bank of the Nile, but these are large sailing vessels and intended for personal use to judge by their sumptuous appointments. Now masts are unstopped and sails furled and by means of a gang plank, sailors pass to and fro to bargain for supplies with neighbouring villagers.



SHIPS THAT BROUGHT TO EGYPT APES AND IVORY, SPICE AND INCENSE

Though the Nile was Egypt's grand waterway, her sailors did not shrink from braving the outer seas. In the temple of Queen Hatshepsut at Deir el-Bahri are found low reliefs of the five mighty ships she sent by way of the Red Sea to Punt in the south, to fetch back all manner of treasures for the glory of Ammon. That they are ocean-going vessels may be seen from the nature of the fish depicted, squid and crayfish among them. Note the thick rope that spans the ship from stern to stern.

Photo by the Egypt Exploration Society

long before that date that the sun was drifted daily across the sky on the Celestial Nile. The solar deity named Ra (or Re) was ultimately given a boat, but, to begin with, he was supposed to use two reed floats which are referred to in the texts as "the two floats of the sky." Those floats were two fish-shaped bundles of reeds (bulrushes) lashed together with the twisted fibre of papyrus.

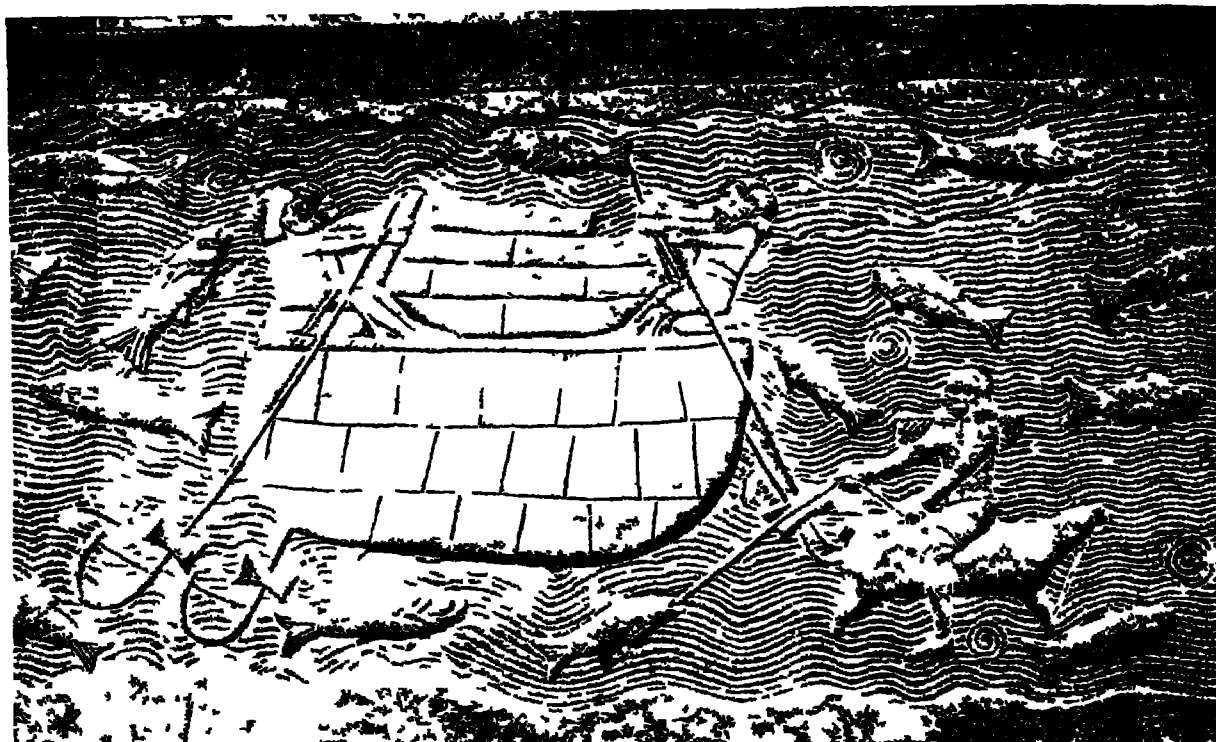
The earliest name of a boat in Egypt was the "Binding." Breasted tells that he was once taken across the Nile in Nubia by a native who had carried down to the shore two floats made of dried reeds and bound together. "It was," Breasted writes, "not a little interesting to find a craft which he knew only in the Pyramid Texts of 5000 years ago still surviving and in daily use on the ancient river in far off Nubia." ("Religion and Thought," p. 108.)

Broader floats made up of more than two bundles of reeds came into use and are mentioned in the Pyramid Texts and can still be seen in Middle and Upper Egypt. Then an ingenious inventor introduced the first real boat. It, too, was called the "Binding," and in a tomb picture three ancient Egyptian workers are seen binding together the

reeds which have been given a rather graceful canoe shape. It was probably in such a vessel that the child Moses was laid by his mother. "She took for him an ark of bulrushes," the Old Testament narrative relates, "and daubed it with slime and with pitch, and put the child therein." (Exodus ii, 3.)

The next stage in the progress of navigation is marked by the introduction of the sail which was, no doubt, suggested by the bird's wings. At any rate, the sail emphasises that we are really dealing with a deliberate invention. A vessel with a square sail is shown on a predynastic amphora from Upper Egypt which is preserved in the British Museum and is of much greater antiquity than the Pyramid Texts which from religious motives conserved the early idea of "the floats of the sky."

The wooden ship does not appear in ancient Egypt until after its Pharaohs had begun to obtain supplies of timber. At first they imported cedar from Lebanon, and later (about 1000 B.C.), as is proved by the sawdust in mummy packings, cedar from Morocco. The Mediterranean was crossed by enterprising mariners in boats of papyrus reeds coated with pitch. No doubt the sails were made



METHODS THAT HAVE NOT CHANGED FOR NIGH THREE THOUSAND YEARS

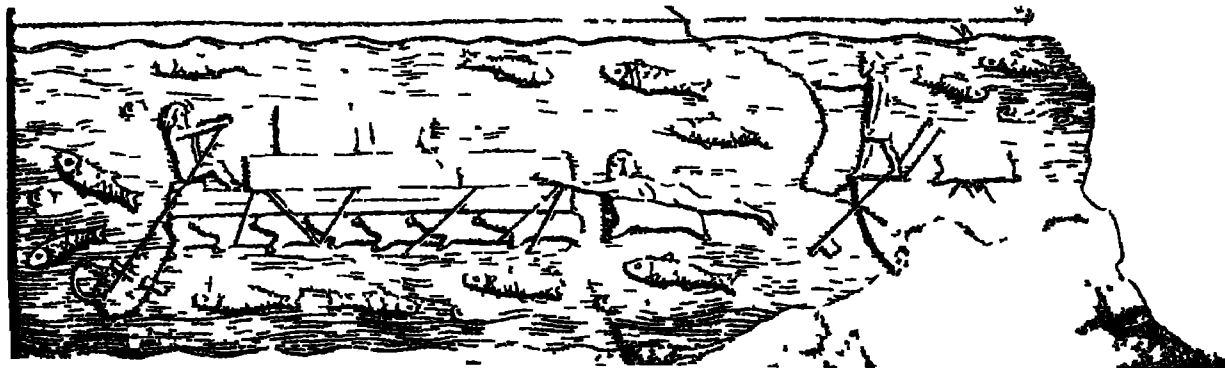
Primitive still it were real floats which as we have seen (page 945) developed naturally into the earliest boats. A line of primitive floats on the Euphrates will readily show that it is not to Mesopotamia that we must look for the origin of the boat in our sense. Indeed the invented bale hie kufa has given rise to no developments and is still favoured as a ferry in all its primitive simplicity. The relief from Sennacherib's palace at Kouyunjik shows besides the kufa a fisherman lured on an inflated skin and catching his quarry with enviable ease in view of the thickness of his line.

From the collection of the Trustees of the British Museum

of strong linen. At any rate this was the sailcloth ultimately used for Ezekiel (xxvii, 7) referring to the imports of Tyre mentions that fine linen with broidered work from Egypt was that which thou spreadest forth to be thy sail. The earliest prospectors must have followed the coast line when they began to search for timber but ultimately they ventured to shorten their voyages by crossing the sea like the migrating birds. Indeed there is

evidence which suggests that they followed migrating birds. It was the Phoenicians who first navigated by observing the stars. That was why the Greeks knew the North Star as the Phoenician.

The timber procured from Lebanon was drifted to Egypt and was used chiefly for making coffins, furniture, statues, etc. Then the earliest Egyptian dug outs were constructed. Having solved the problem of boat construction by making



MOST PRIMITIVE OF CRAFT BUT NEVER OBSOLETE

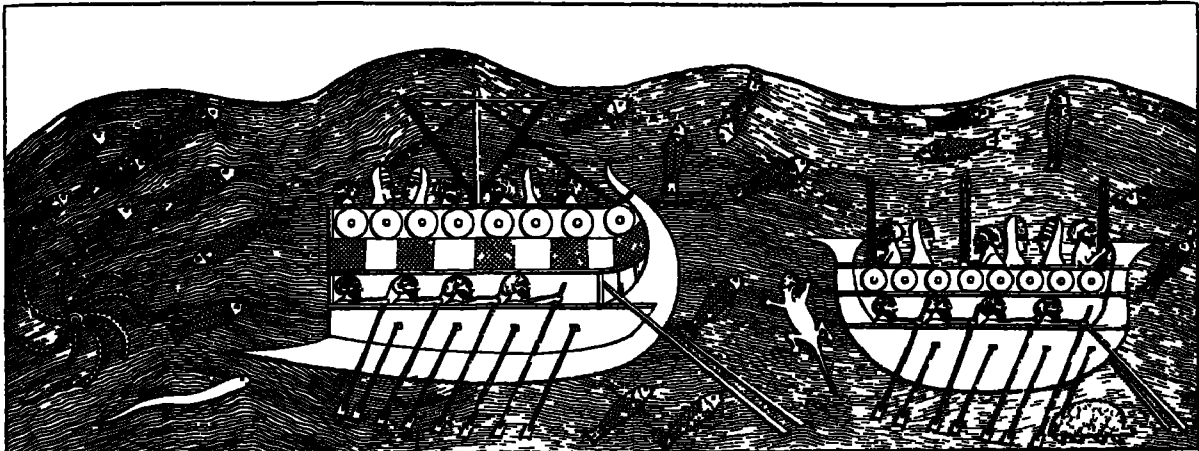
Substantial rafts lashed and buoyed beneath with inflated skins of animals were used as well as kufas on the Euphrates for transporting materials, but from the raft no more than from the kufa were ships derived. The raft in this illustration of a type known as "elek," is propelled with the same strange long sweeps as the kufa above and behind it a man is swimming with the aid of a skin.

From Layard's "Monuments of Nineveh"

experiments with vessels of reeds and, probably, partly of skins, the boat-builders were able to shape and hollow the trunks of trees, imitating the lines of the older and frailer vessels. The tomb scenes of the Old Kingdom period afford us glimpses of the busy shipyards in which the skilled workers are engaged constructing dug-outs in imitation of the "Binding." In the most elaborate vessels of later times the early method of tying up the curving bundle of reeds at the stern is perpetuated by the characteristic ornament terminating in a great carved lotus bud. The ship was in itself

B.C. the third dynasty Pharaohs had so developed ship-building and the science of navigation that Pharaoh Sneferu was able to send to the North Syrian coast a fleet of forty vessels to obtain cedar from Lebanon. An idea of the size of those sea-going vessels is obtained from the mortuary cedar boat of one of the Middle Kingdom Pharaohs which is 30 feet long, 8 feet wide and 4 feet deep.

When we come to the Empire period of Tutankhamen, it is found that the Egyptians had brought the craft of shipbuilding to a high pitch of perfection. Queen Hatshepsut, who reigned more than



PANIC STRICKEN, ASSYRIA'S FOES TAKE TO THE SEA

This illustration, taken from a relief at Kouyunjik, shows two types of ship, not Assyrian but belonging to Assyria's enemies—in this case Phoenicians, there is good reason to believe. Defeated, they have taken refuge on board and put out into what must be an estuary to judge by the fauna—starfish, eel, turtle and a kind of alligator. One ship is single masted and furnished with beaked prow and incurving stern; the other mastless, with prow and stern alike; both are rowed by two banks of oars.

From Layard's "Monuments of Nineveh"

regarded as a living creature—a form of the mother-goddess—and eyes were painted on the bows, while its sails were dedicated to Nut, the winged goddess.

Boats were built on the Nile before copper implements came into general use. Settlements of colonists had been effected in Crete while yet flint and obsidian (natural glass) were being utilised. That artisans can do quite effective work on wood with polished stone adzes is proved by the evidence of Polynesia, and that the accomplished craftsmen of ancient Egypt displayed similar skill with such implements there can be little doubt.

The mariners of the Pharaoh not only sailed on the Nile and across the Mediterranean but ventured on the Red Sea. During the early dynasties ebony was obtained from Punt (Somaliland and southern Arabia) for furniture and for religious purposes.

The Red Sea was reached by the Hammamat desert route, a journey of five days from the Nile, and boats were constructed on its shores which had long been frequented by searchers for gold and shells—numerous Red Sea shells have been found in early Egyptian graves. Before 2700

half a century before Tutankhamen, despatched an expedition of five great vessels to Punt which is referred to in the inscriptions as "the glorious region of God's Land." There the vessels were loaded with "all goodly fragrant woods of God's Land, heaps of myrrh-resin, of fresh myrrh trees, with ebony and pure ivory, with green gold (electrum) of Emu, with cinnamon-wood, with incense, eye-cosmetic, with baboons, monkeys, dogs, with skins of the southern panther, with natives and their children." (Breasted's translation)

Mr. Keble Chatterton has drawn attention to an interesting feature of Queen Hatshepsut's ships. Above the deck, and stretching almost from stern to stern, is a strong truss of rope as thick as a man's waist. Commander T. M. Barber of the United States Navy has calculated that this truss could withstand a strain of over 300 tons. It was intended to prevent what naval architects call "hogging." When a long vessel is "pivoted" on the crest of a wave, the bow and stern, not being water borne, have a tendency to droop, while the centre of the ship tends to bulge up." A vessel



SUCH A SHIP AS HIRAM, KING OF TYRE, MIGHT HAVE SAILED IN

Our best representations of the famous Tyrian galleys that cruised from end to end of the Mediterranean are found on the wall sculptures of the Assyrian kings. Here we see a beaked warship with two banks of rowers, nine and eight, of which only the upper is visible; on the shield hung above them are groups of warriors. The ship is on the sea, not a river, as the detailed circumstance of the Assyrian artist clearly shows; witness the lusty crab that has just assured itself of a meal.

By permission of the Trustees of the British Museum

whose centre bulges like a hog's back is in danger of snapping amidships under the strain. The Egyptian shipbuilders had, as they increased the length of the vessels, to deal with this problem, no doubt as a result of tragic experiences, and by Hatshepsut's time they did so successfully as the clinker-built ships sculptured in her Deir el-Bahri temple show plainly.

The progress achieved by the ancient Egyptians in the science of navigation can be followed by studying the vessels of various periods. Before 3000 B.C. the Nile vessels had two-limbed masts and three-limbed masts which had small high cross-pieces and were erected well forward. A treble mast is represented in a sixth dynasty tomb at Gebel Abu-Faïda. The early sails are narrow and deep, but those of the fifth dynasty are wide and shallow. The smaller and earlier boats have a single steering oar or paddle directly over the stern, the later ones have two or more steering oars on each quarter. Those experts who have followed the Egyptians in their gradual endeavours to make their ships come up closer to the wind are not agreed as to the period when they discovered how to "tack." It was no doubt, however, on the Nile, with its winds blowing with the regularity of trade winds, that the arts of sailing against the stream and ultimately against the wind were developed as a result of experience covering many centuries.

A vivid and arresting glimpse of ancient

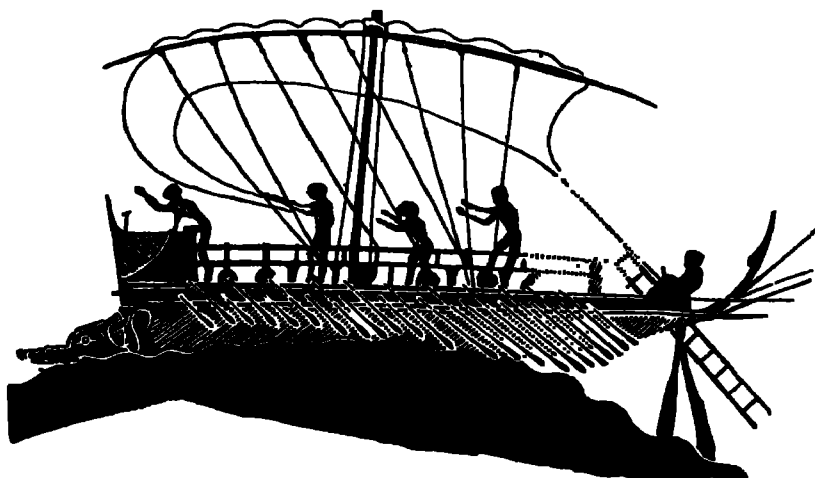
Egyptian sailor life is obtained from the papyrus story of "The Shipwrecked Sailor" which appears to be as old as the twelfth dynasty, that is about 1500 years before the age of Tutankhamen. The sailor tells that the ship on which he sailed was 150 cubits long and 40 cubits wide, and had a crew of 150. It was bound for a distant Mine Land. The sailors were brave; "they had the hearts of lions" and some of them, the narrator tells, had ventured the opinion that the wind would be favourable, or that there would be no wind at all. But suddenly a squall arose and struck the ship, raising waves eight cubits in height. Apparently the vessel "hogged" and tounded. The shipwrecked sailor clutched a piece of timber and was washed ashore on an island, but all his companions perished.

The seafaring expeditions of the Egyptian mariners on the Mediterranean and the Red Sea coasts brought them into touch with a great variety of peoples who acquired knowledge of their arts and crafts. Egyptian barley was imported into Europe and Syria, and with the barley went the elements of the complex civilization of the Nile valley which was based on the agricultural mode of life. Crete became a great seafaring state; the Phoenicians of Tyre and Sidon adopted, as did the Cretans, the vessels invented by the Egyptians, and became the first regular sea traders not only on the Mediterranean but in the Indian Ocean. The Egyptians, as we have seen, were not sea traders in the ordinary sense; they fitted out

expeditions to obtain for themselves supplies of wood and of incense, precious metals, etc., used for religious purposes. The Phoenicians, on the other hand, became the carriers of the goods of various peoples and such daring and enterprising prospectors and explorers that they ultimately, as Herodotus informs us, circumnavigated Africa, setting out from the Red Sea and returning through the Strait of Gibraltar. But their successful achievement as mariners dates from the time when they adopted the Egyptian type of vessel which they developed and improved upon. "In every age and every district of the ancient world," writes Cecil Torr in his

"Ancient Ships," "the method of rigging ships was substantially the same, and this method is first depicted by the Egyptians." The Phoenician ships were built on Egyptian lines, and they were imitated far and wide. Greek and Roman vessels were of the Egypto-Phoenician types.

When King Solomon had a navy built at a Red Sea port, he obtained the services of Phoenician mariners. His ally, King Hiram of Tyre, "sent in the navy his servants, shipmen who had knowledge of the sea, with the servants of Solomon. And they came to Ophir, and fetched from thence gold, four hundred and twenty talents, and brought it to king Solomon." (1 Kings ix., 27.) In addition to gold the mariners also brought from Ophir (a market town in south-eastern Arabia) "algum trees and precious stones." King Solomon's ships



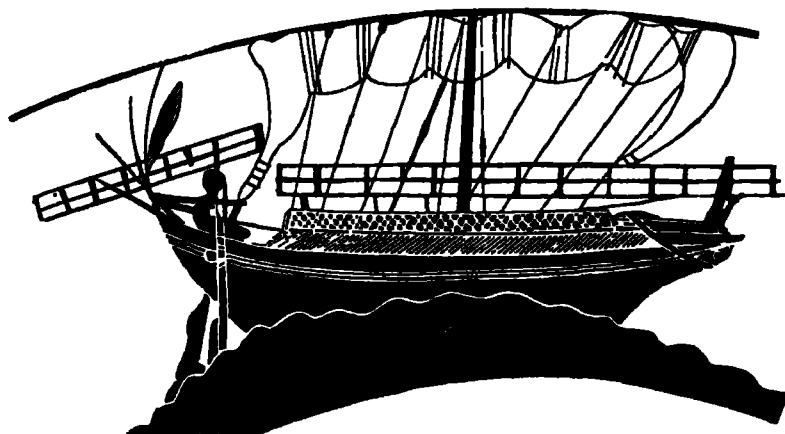
GREEK WARSHIP DEFTLY PAINTED ON A VASE

The next stage in the story of boat-building comes when the Phoenicians passed their science on to Greece; the Greeks soon mastered their masters and Greek vessels plied from the Pillars of Hercules to the Black Sea. Here we have a vase painting (c. 500 B.C.) of a warship with beak for ramming and a boarding ladder at the stern.

accomplished long voyages, for the "king's ships" went to Tarshish with the servants of Hiram: every three years once came the ships of Tarshish bringing gold, and silver, ivory, and apes, and peacocks." (2 Chronicles ix., 21.) Tarshish is believed to have been situated in the Malay Peninsula. It is obvious that long before Solomon and Jehoshaphat engaged in sea trafficking the routes had been explored by the Phoenician mariners, and that the market of Ophir received its supplies from several far distant sources of wealth which had been located by prospectors.

At an early period the mineral wealth of southern Spain was exploited by mariners and colonists from the Syrian coast. Louis Siret, the Belgian archaeologist, has discovered traces of Easterners near old mine workings in Spain and Portugal who were apparently in touch with Mesopotamia and Egypt. His finds include an ancient Egyptian gold coronet, articles made from Egyptian ivory, ostrich eggs from Africa, figurines of the mother-goddess of Mesopotamia, alabaster perfume flasks, amber, perhaps from the Baltic, and jet, apparently from Whitby in Yorkshire. M. Siret dates this Eastern "culture wave" as far back as 2500 B.C.

That the Mediterranean seafarers reached Britain at an early date is suggested not only by the discovery of imported jet in southern Spain, but also by the older and equally significant discovery at Glasgow of an ancient



TRADING SHIP PORTRAYED BY A GREEK VASE PAINTER

Another vase painting shows us a merchant vessel running close-reefed in a gale. The main differences from the warship above are the absence of a beak, not necessary for the peaceful prosecution of trade, and of oars—merchant ships had no need to manoeuvre swiftly and could afford to court a favouring wind.

boat with a plug of cork As Lyell, the geologist, pointed out many years ago, this boat "could only have come from the latitudes of Spain, southern France or Italy"

Professor Elliot Smith in his "Ancient Mariners," draws attention to the Egyptian character of a boat carved on a rock in Sweden with that "hook-like appendage at the stem" which "is found in ancient Egyptian and Mediterranean ships" Not only the "hook" but the bow "eyes" which are a distinctive feature of ancient Egyptian ships are found on vessels such as Chinese junks

Kellie Chatterton, comparing the Chinese junk with the ancient Egyptian ship says "there is such a close similarity as to show a common influence and a remarkable persistence of type" The resemblance between the vessels of the Polynesians and those of the Mediterranean in ancient times was noted a century ago by William Ellis, the missionary, who wrote of "the almost classical shape of the large Tahitian canoes the elevated prow and stern," etc

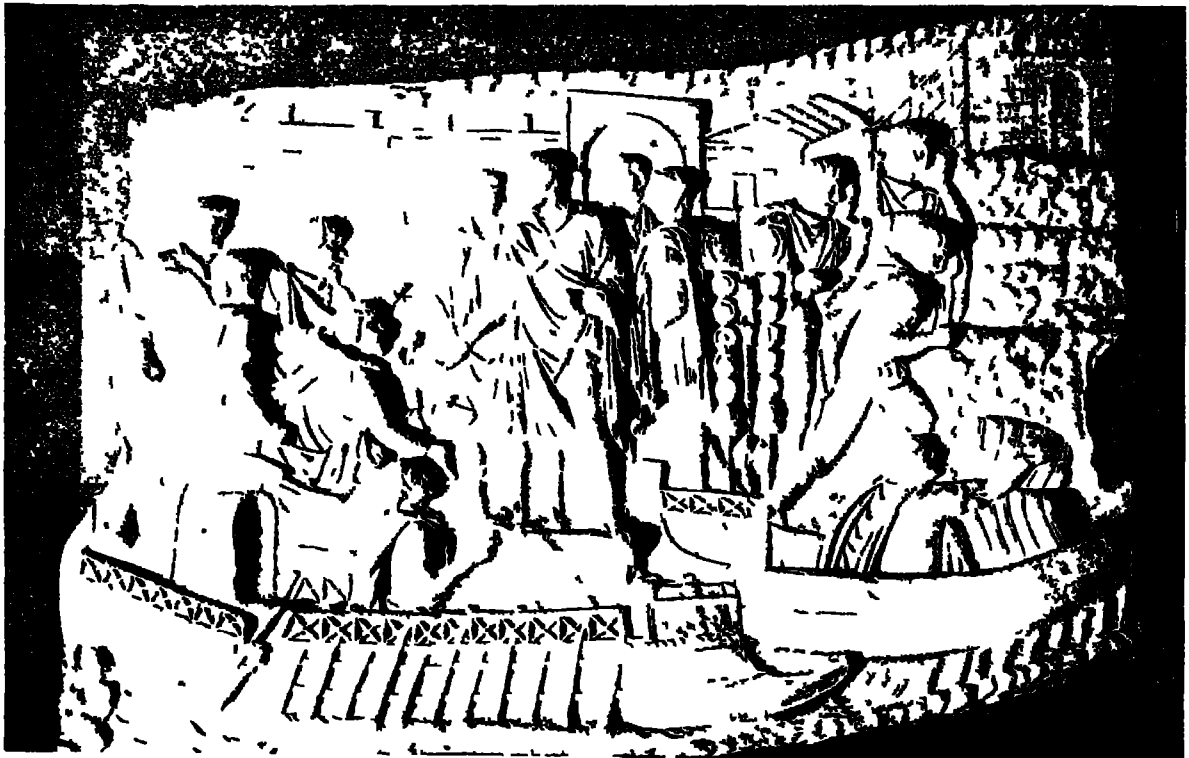
It was not only the warships, the cargo ships and the small reed boats of Egypt that were adopted by various people in ancient times Like Elliot

Smith, Breasted has drawn attention ("The Journal of Egyptian Archaeology," vol iv) to the existence of the Egyptian type of double reed float, "the ancestor of the 'catamaran,' so common in Pacific and Malay waters," which is "still used by fishermen on the west coast of South America" Breasted adds "It is quite evident that Egyptian navigation by way of the Red Sea affected navigation devices in the East Indian world just as it did in the Mediterranean"

The acquired knowledge of boat construction appears to have been handed down in traditional religious formulae In Polynesia, for instance, ceremonies conducted by priests were performed when trees were cut down and canoes were fashioned and launched The "prayers and incantations" preserved the religious character of boat-building and also apparently the necessary measurements, etc Before ever a tree was felled the canoe gods were, as Dr Emerson has recorded invoked to

Grant a canoe which shall be swift as a fish
To sail in stormy seas

The influence and ideas of the ancient Egyptian ship builders were carried to distant parts never reached by the Egyptians themselves



ROMAN GALLEYS CARVED BY AN ARTIST TO WHOM THEY WERE FAMILIAR

On Trajan's Column in Rome (see page 527) is a good representation of a beaked Roman galley, though necessarily out of proportion with the figures standing behind it owing to the nature of the composition It is obviously derived from the Greek warship, which in its turn comes through Phoenicia from Egypt, or perhaps the connexion with Phoenicia was more direct, by way of Carthage In either case, Egypt is the ultimate source of Rome's shipping and through Rome of the shipping of to-day

Byzantium in the Time of Justinian

By J. B. Bury, M.A., Litt.D., LL.D

Formerly Regius Professor of Modern History, Cambridge; author of "History of the Eastern Roman Empire," etc.

THE Greek town of Byzantium was nearly a thousand years old when it was chosen by Constantine the Great to be a second capital of the Roman Empire, and was renamed after him Constantinopolis (Greek, Konstantinoupolis), "Constantine's city" (A.D. 330). The choice was a wise one, as the subsequent course of events showed; Imperial Constantinople was to have a longer history than Imperial Rome.

The city is situated on a hilly promontory just where the Bosphorus, which flows from north to south, enters the Sea of Marmora. On three sides it is bounded by water, on the south and east by the Marmora, on the north by its harbour, the Golden Horn. It is this natural harbour which makes the situation of Constantinople—or Istanbul, as it is now called—so unique. Without the Golden Horn, which is capable of accommodating about 1,200 vessels, she could never have become, as she was for centuries, the first commercial city of the world. An enemy who had not a navy at his command could attack her only on one side, and this western side was protected by an elaborate system of fortifications running from the Marmora to the Golden Horn. These walls were originally built early in the fifth century, and their ruins are to-day perhaps the most striking monument of the past greatness of the city. The structure consisted of an inner wall, about 14 feet thick; a thin and lower outer wall, built for the most part in arches; a terrace of 18 to 20 yards between the two walls; outside the outer wall an embankment, and outside it

again a broad ditch divided by low dams. Each of the two walls was strengthened by 96 towers, 60 yards apart. The line of these early fortifications, which are known as the Theodosian walls, because they were built in the reign of Theodosius II. (A.D. 408-450), did not reach as far as the Golden Horn, and we do not know how exactly the defence of the north-western quarter of the city—the quarter known as Blachernae—was provided for originally, but at a later period the Theodosian line was extended northward to the Horn to meet the sea-wall. For the three water-girt sides of the city were also secured from attack by walls.

There were five principal gates in the Theodosian wall, of which the southernmost was known as the Golden Gate, constructed of marble and presenting the general type of a Roman triumphal arch. Through it the emperors made their public entries into the city, and the long line of streets through which they rode to reach the palace is exactly the same as that which still leads from the Golden Gate to the Seraglio. This street, or succession of streets, is about four miles in length. It passes through the Forum of Arcadius, in which the pedestal of the great column of that emperor may still be seen; through the Forum of Theodosius the Great, whose column was still standing in the 16th century, through the oval Forum of Constantine in the middle of which was a high porphyry pillar supporting a statue of Constantine the Great in the guise of Apollo, crowned by a halo of seven rays. Part of the pillar still stands in its old place, blackened by



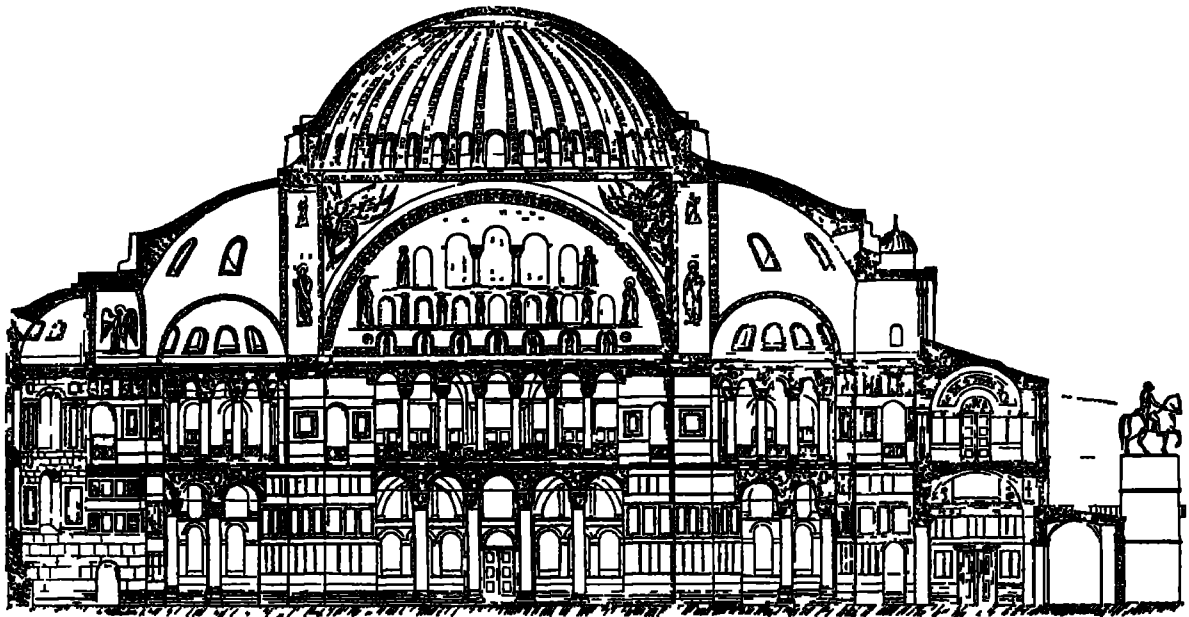
LEGEND WROUGHT INTO OLD IVORY

The working of ivory was one of the supremely characteristic Byzantine arts, and the precious material was used with gold and enamel in architectural decoration; but this plaque, dating from the fifth century, was the cover of a copy of the Scripture.

fire, and known as the Burnt Column. From here it was not far to the Angustium, the social centre of the city, round which were grouped the most important public buildings—the Hippodrome, the Imperial Palace, the Senate House, the Church of S. Sophia and the Baths of Zeuxippus.

Constantinople was as unlike Rome in its site and topographical features as it could well be, but as it was to be a second Rome it was forced to resemble the old capital in some superficial points. Like Rome, it was to be a city of seven hills, and

The Hippodrome was planned and partly built by the Emperor Septimius Severus more than a hundred years before Constantine's reign. The Circus Maximus served as its model. But whereas the Roman circus was built on the level ground between the Palatine and Aventine hills, there was not enough level ground for a racecourse available anywhere in old Byzantium, and Severus had to build it partly on ground levelled near the summit of the first hill and partly in the air. In fact, the southern portion of the racecourse hung supported



S SOPHIA · CROWNING ACHIEVEMENT OF BYZANTINE ARCHITECTURE

Planned by Anthemius in the shape of a Greek cross of four equal arms S Sophia was built between 532 and 537 by Justinian. Its amazing dome, 110 feet in diameter, is supported on a square of four arches, and not, as is usual, on a hexagon or octagon. Mosaics on a gold ground adorn the walls and vault above, but lest Allah's faithful should be offended by these heretical representations, the Mahomedan Turks covered them over with a decoration of stucco. The scale of this section is 30 feet to the inch

After a section by Ferguson

seven hills were discovered on the site. Some of these are well marked. S Sophia stands on the top of the first hill which rises from the shore on the east side; the Forum of Constantine is on the top of the second, and the mosque of Mahomed the Conqueror now crowns the fourth hill. Like Rome, it was divided into fourteen regions, or wards, and as one of the Roman Regions lay beyond the Tiber, so one of the Constantinopolitan regions lay beyond the Golden Horn, corresponding to Galata. As Rome had a "secret" religious name, "Flora," Constantinople had a similar name, "Anthus," with the same meaning. Constantine the Great chose for the Imperial Palace a site on the upper slopes of the First Hill, adjoining the Hippodrome, just as the Imperial Palace at Rome on the Palatine Hill was contiguous to the Circus Maximus in the depression below it.

by massive vaulted structures, which we can inspect if we go down to the foot of the hill. The Hippodrome is now an open place called the Atmeidan (Turkish for hippodrome). At the northern end (the side towards S. Sophia) was the Kathisma, a small "palace" appropriated to the use of the emperor when he presided at the chariot races. The seats of the spectators ran down both sides of the course and round the semicircle which terminated the southern end. It has been calculated that the length of the hippodrome was over 400 yards and the width between 100 and 200. If you walk about the Atmeidan to-day, you will find no traces of walls or seats or of the Kathisma, but you will see three remarkable monuments, which are still in the same position as in the days of Justinian, and show us the exact orientation of the racecourse. Down the middle of a Roman

racecourse there always ran a long, low wall, at the ends of which were the goals round which the chariots had to turn—generally they had to make seven circuits. This wall was called the 'spina,' or backbone, and on it were placed at intervals statues and monuments. Three of these have survived (1) The Egyptian obelisk (of Thothmes III 15th century B.C.) which is in the middle of the Atmeidan, was brought to Constantinople from Heliopolis by the Emperor Theodosius the Great, and was placed by him at the central point of the spina on a pedestal on which he and his sons are represented in the act of witnessing chariot races. (2) Farther south is a work of art, not so old and not so large, but more interesting to Europeans—the bronze pillar made of three serpents which used to support the gold tripod that the Greeks dedicated to Apollo at Delphi in thanksgiving for the decisive victory which they won at Plataea over the Persians in

479 B.C. Constantine the Great rifled Greece for works of art to adorn his new capital and this was one of the treasures he carried off. (3) Farther south still are the remains of a column of masonry which was once covered with glittering plates of bronze, but we do not know what it represented.

There is another monument which used once to adorn the Hippodrome (on the facade of the Kathisma) but which we must now go to Venice to see, the Four Horses attributed to the Greek sculptor Lykippus, in gilt bronze which were carried off from Constantinople in A.D. 1205 and are now in front of the cathedral of San Marco.

All the inhabitants of Constantinople from the emperor down were as interested in the chariot races, the horses and the jockeys as most English men are in the Derby, and were far more ardent partisans. The leading charioteers were popular idols, and we can still see a monument in honour of one of them, Porphyrius, whose skilful driving



ENTRANCE TO THE PROPHET'S MOST GLORIOUS SHRINE, THE QUEEN OF OLD STAMBOUL
When, in 537, Justinian gazed on the completed temple of his God, he is said to have exclaimed "O Solomon I have surpassed thee", and, struck with the idea, caused a statue of the chagrined Solomon to be raised outside his church. Splendour incredible certainly reigned inside, but the exterior had little of the ornate in its decoration, one would scarcely say that its beauty is enhanced by these supporting buttresses built by the later Moslems, who also added the minarets of which one is seen on the extreme right.



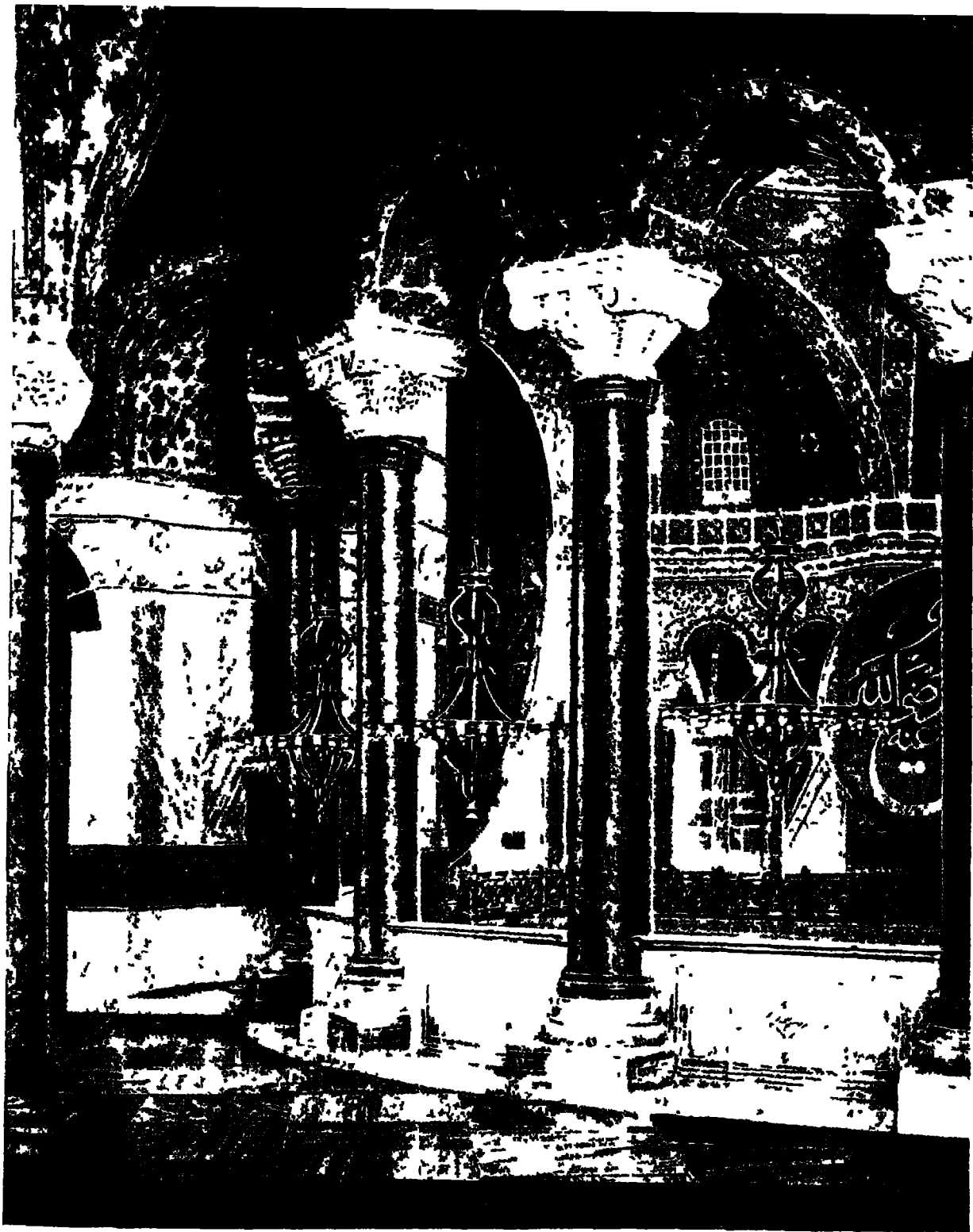
ONCE A LOVELY TABERNACLE OF CHRISTIANITY—NOW A MOSQUE OF ISLAM

Visible to all, yet graceful is the exterior of the mosque of S. Sophia. Looked at from this point it would seem to be a terraced heap of old and new. The original central cupola of Anthemius' edifice fell in 555 and was replaced by this higher, stronger one. It was found, while the repairs were in progress, that the question of lighting the interior could be solved by the introduction into the base of the dome of these forty windows, which give an intangible lightness to the whole superstructure.

used to bewitch the Byzantine spectators in the early years of the sixth century. It is to be found in the courtyard of the church of S. Irene.

The Hippodrome had a political importance which never belonged to the Roman circus. It was constantly the scene of riots and political demonstrations. When a new emperor came to the throne, it was here that the populace acclaimed him. A modern French writer has pregnantly observed, with considerable but perhaps allowable exaggeration, that the spine of the Hippodrome was the axis of the whole Byzantine world.

Justinian ascended the imperial throne 200 years after the foundation of Constantinople and in his reign the city reached the height of its power and splendour. It was now not the second but the sole capital of the empire, for all Western Europe and North Africa had been lost to the Germans; Italy and Rome were in the hands of Goths. Justinian did indeed expel the barbarians from North Africa and Italy and the islands of the Western Mediterranean, but Rome, which had been reduced to desolation, did not recapture her old place; she was a mere provincial town so long



ZENITH OF EARLY CHRISTIAN ARCHITECTURE & SCULPTURE

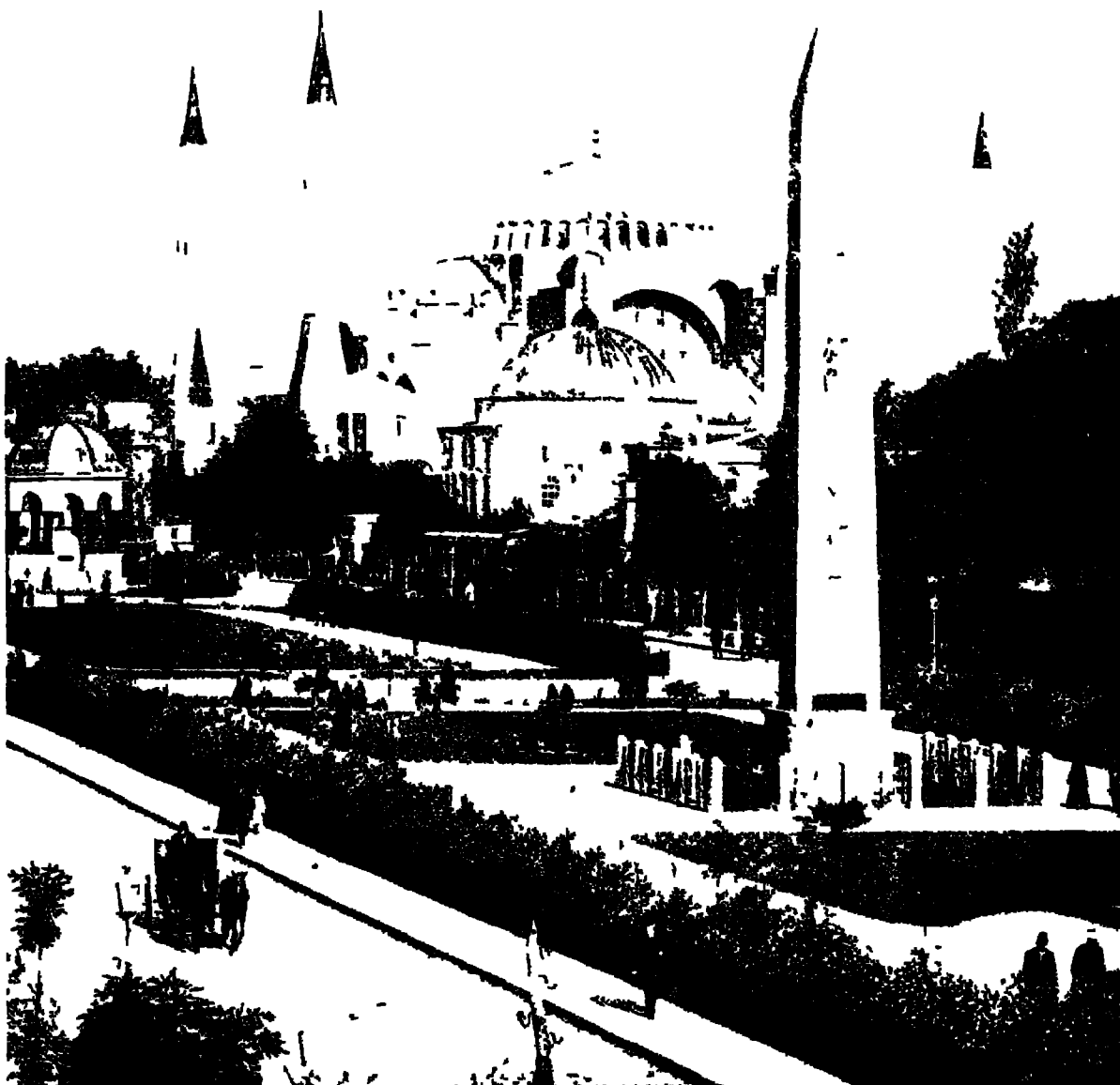
The richly decorated interior of St. Peter's Basilica, Rome, is a masterpiece of early Christian architecture. The nave is flanked by tall, fluted columns, and the ceiling is a series of vaults. The apse is a semi-circular recessed area at the end of the church, containing the altar. The mosaic in the apse depicts Christ as the Good Shepherd, surrounded by his apostles. The floor is made of large, square tiles, and the walls are covered in frescoes and mosaics. The overall effect is one of grandeur and beauty, reflecting the power and influence of the early Christian church.

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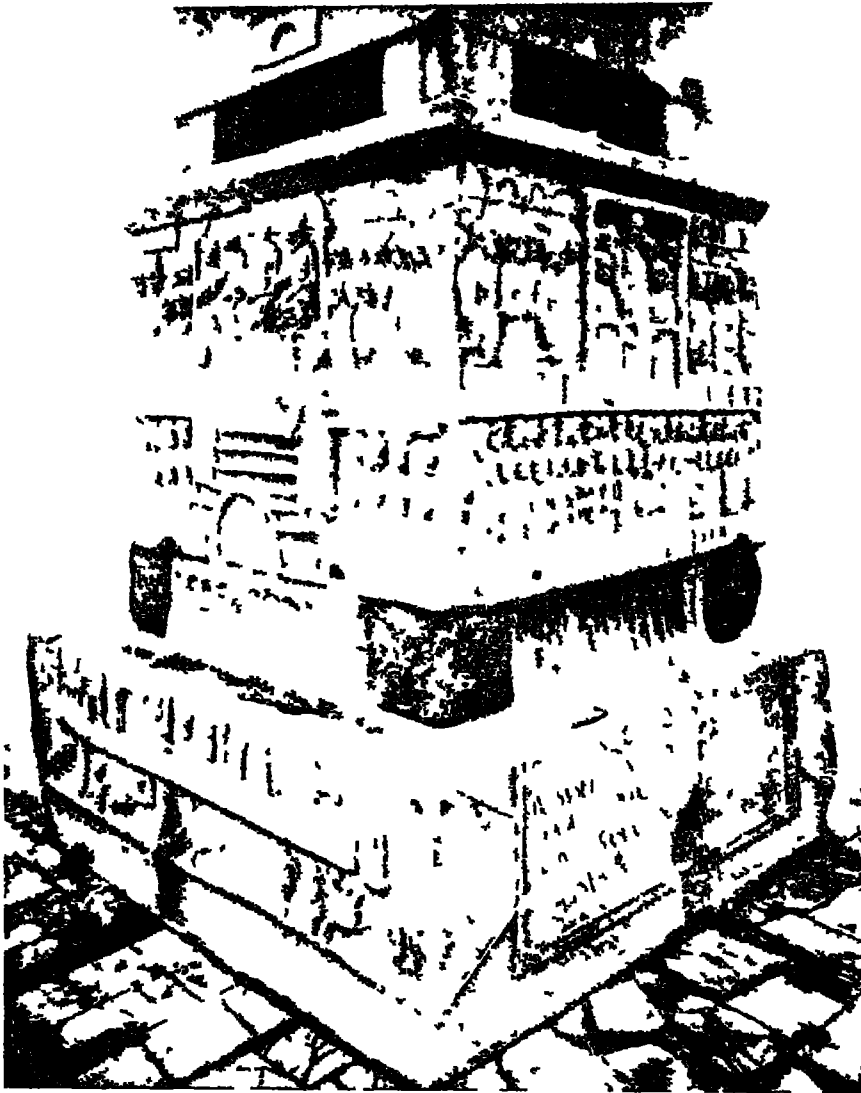


HIPPODROME OF CONSTANTINOPLE WHERE PUBLIC FEELING ONCE RAN HIGH
 Known now as the Atmeidan and adorned with spoil from ancient Egypt in the Obelisk of Thothmes III, the Hippodrome is contiguous with St. Sophia, which is seen in the background. It was planned by Septimius Severus some three centuries before Justinian and was the scene of chariot races on which partisan enthusiasm ran high. In Justinian's time this intense feeling rose to a climax in the Nika riots in 532 and it was Theodora's courage and calmness that saved a very awkward situation.

as she remained within the empire. Constantinople was to be, for many hundred years, the greatest city in Europe both politically and commercially.

Justinian was so powerful and the range of his activities was so wide that he had a great influence on subsequent history—first of all by his conquests, then by his large reorganization and simplification of Roman law, thirdly, by his ecclesiastical policy—he was a subtle theologian in an age of subtle theologians. His wife was the famous Theodora, who helped him in many ways and was more feared than he was—the most baffling and the most elusive of all the Roman Empresses.

Next to theology, this Emperor's principal hobby was building, and no considerations of expense prevented him from indulging in it. The public buildings of Constantinople had been fine but probably not very wonderful when he came to the throne; they were very wonderful and worth coming a long way to see when he died. The opportunity for rebuilding the city was given to him by an occurrence which very nearly cost him his throne and life. A revolt broke out in the city, he was besieged in his palace, and the case seemed so desperate that he decided to flee. Theodora's courage saved the situation, and the rebellion was



PEDESTAL OF HIPPODROME OBELISK

Sept 1 1480 in the 1st year of the reign of the Emperor Constantine the Great, the Obelisk of the Hippodrome was erected by the Emperor Constantine the Great. The inscription on the right refers to its erection by the Emperor Constantine the Great.

put down. But during the course of the disturbances there had been great conflagrations and nearly all the most important public buildings had been burnt down to the ground.

Thus the calamity sweeping the ground clear, enabled the sovereign to rebuild the city according to his own magnificent ideas of what an Imperial capital should be. Circumstances fortunately concurred. "Byzantine" art had now attained its maturity, and both architects and pictorial artists were able to achieve more brilliant effects than were possible a hundred years before. Justinian's age is the great age of Byzantine art.

And not only was it a great age for average artistic skill but it produced one of the very greatest architects that the world has ever seen. Anthemius of Tralles.

St. Sophia was one of the buildings which had been burnt down, and Justinian entrusted to Anthemius the task of building a new church which should be one of the wonders of the world. It was begun in A.D. 532, and completed in A.D. 537. This speed which might satisfy even transatlantic ideals of expedition, may have been greatly due to the personal interest of the emperor, who was constantly on the scene and would often distribute gratuities to the workmen in addition to their regular pay.

The plan of the church is a Greek cross with four equal arms and the unique feature of its architecture is that the central dome, which is 100 feet in diameter is placed over the square space which lies between these four arms. As a rule great domes are placed over round spaces, for instance the Pantheon, or octagonal spaces for instance the Church of Little St. Sophia. I do not know any other instance of the dome rising over a square space. It

was a very bold experiment. At each corner of the centre space (100 feet square) a massive pier was constructed and on the four piers rested the arches and pendentives which sustained the dome. The dome rose to the height of 180 feet and was pierced by fifty windows. It was made of very light material. But Anthemius had not allowed a sufficient margin of safety, and twenty years later it crashed down. The misfortune was not irremediable. Anthemius was dead but another architect erected a new and somewhat higher cupola, and by various architectural readjustments secured a stability which has lasted until to-day.



OLDEST RELIC IN BYZANTIUM THE FAMOUS COLUMN OF THREE SERPENTS

Shaped in graceful bronze to represent three entwined serpents, this column stood just south of the Obelisk. Little of it now remains, but it once rose high to its capital a tripod of shining gold. It was first dedicated to the god Apollo by the Greeks in token of gratitude to him for granting them victory over the hosts of Persia under Mardonius in 479 B.C. From its original site at Delphi it was carried off by Constantine to adorn his own city on the shores of the Golden Horn.

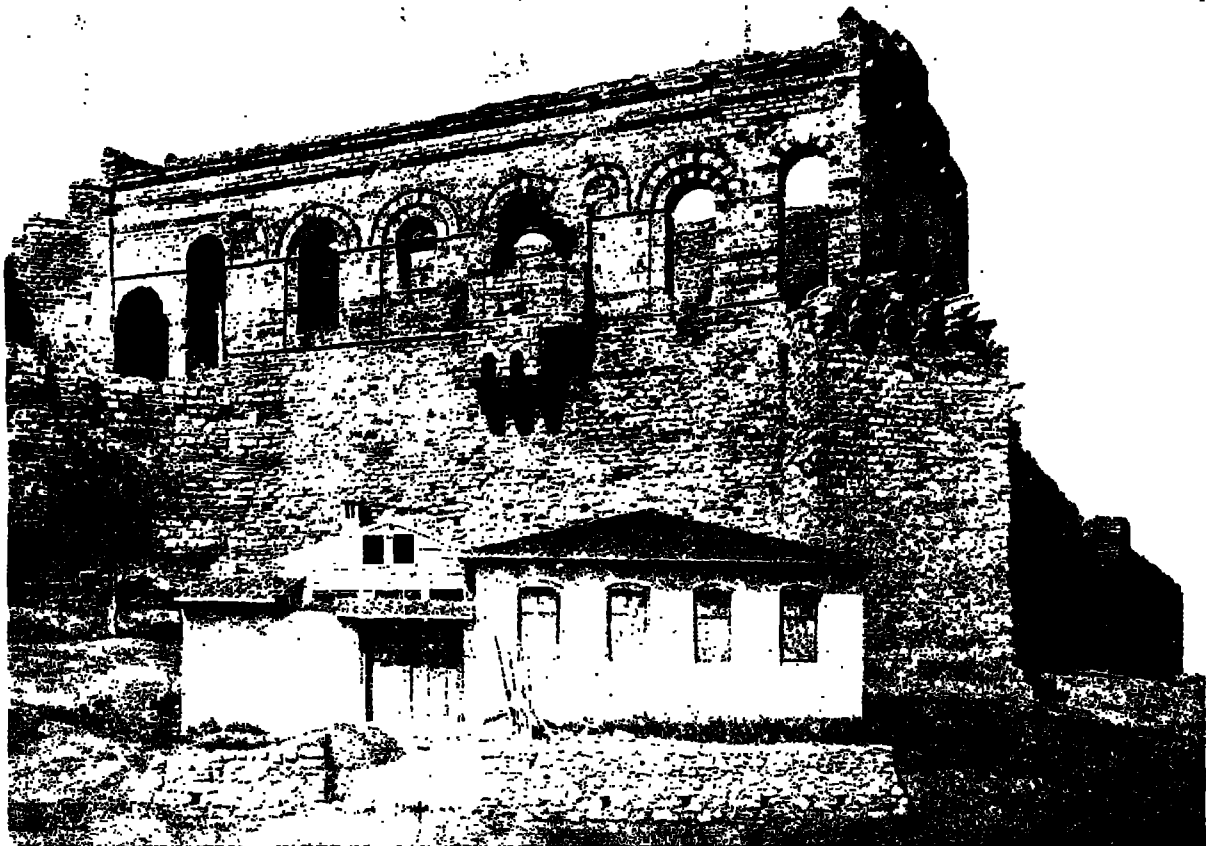


THE FIRE-BLACKENED PILLAR

In the oval Forum of Constantine stands this ruined column. During the heyday of Byzantine splendour it supported a statue of the Emperor Constantine crowned with a halo of seven rays, now it is but a sad relic of an ancient conflagration, and very pathetic in its scorched desolation.

Seen near at hand, the dimensions and dominant position of S. Sophia are not realized. You must go to a distance, say across the Marmora to the Asiatic shore, to appreciate its magnitude. Its exterior is very plain, and that is the case with most Byzantine churches, in contrast with the amazing richness of the decoration of the interior. Although most of the mosaics are still covered with Turkish whitewash, so that the eyes of the faithful Mahomedans may not be offended by Christian scenes and symbols, modern enthusiasts are able to describe S. Sophia as one of the most beautiful buildings in the world, and to understand the raptures which it excited in the contemporaries of Justinian. The truth is that the mosaics were not as essential a part of its decoration as of most Byzantine churches. Its beauty lay in the marbles of many colours which covered the floor and walls. The artists who designed the details were skilful in blending colours; they must have studied carefully the effects of the lighting and seen how the gold with which the roof was covered would be reflected into the marbles below. A writer who saw the church soon after it was built says that the general impression of the interior was that of a great meadow carpeted with flowers.

The marbles were imported from great distances—from Egypt, Numidia, Asia Minor, Greece. A very full description of the church was written by a poet named Paul, who held an official position in the palace, and it was recited in the emperor's presence. It is the most successful—perhaps the only successful—poem on such a subject as the



"PALACE OF PORPHYROGENITUS" FROM WHOSE BALCONY EMPERORS WERE PROCLAIMED

Considered by almost all standard authorities to be the most perfect extant example of Byzantine civil architecture, this magnificent ruin stands at the point where the Theodosian wall of the town ends, and those of the later Heraclius and Leo begin. Specially noteworthy are the solid construction of the walls and the gracefully curving window-arches. "Porphyrogenitus" was the surname given to emperors born in a room in this palace lined with porphyry brought from Rome—hence the expression "born in the purple."

details of an actual building that was ever composed, and is well worth reading in the excellent prose translation which will be found in the book on "Sancta Sophia," by Messrs. Lethaby and Swainson. Here is Paul's glowing and rapturous description of the marbles:

"Who, even in the measures of Homer, shall sing the marble pastures gathered on the lofty walls and spreading pavement of the mighty church? These the iron with its metal tooth has gnawed—the fresh green from Carystus, and the many coloured from the Phrygian range in which a rosy blush mingles with white or shines bright with flowers of deep red and silver. There is a wealth of porphyry, too, powdered with bright stars, that has once laden the river boat on the broad Nile. You would see an emerald green from Sparta, and the glittering marble with wavy veins which the tool has worked in the deep bosom of the Jassian hills, showing slanting streaks blood-red and livid white. From the Lydian creek came the bright stone mingled with streaks of red. Stone, too, there is that the

Libyan sun, warming with his golden light, has nurtured in the deep-bosomed clefts of the hills of the Moors, of crocus colour glittering like gold, and the product of Celtic crags, a wealth of crystals, like milk poured here and there on a flesh of glittering black."

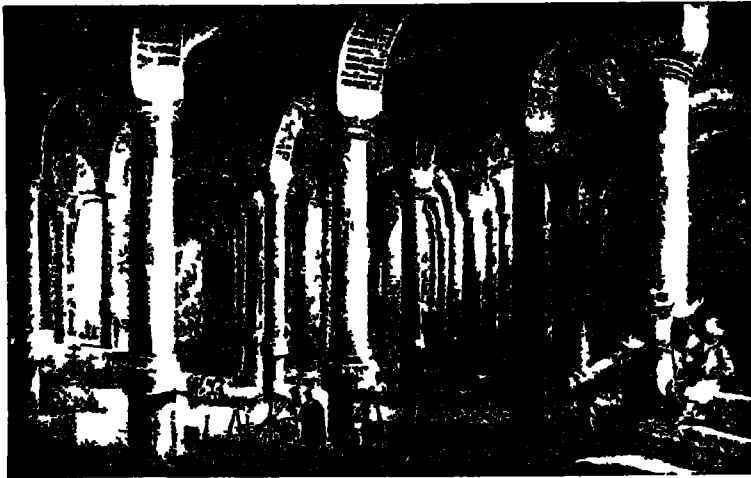
The curves of the arches, ornamented with delicately sculptured acanthus and vine tendrils, and the beautifully wrought capitals of white marble, brought from Proconnesus (the island in the Sea of Marmora), mark the highest point to which the decorative architecture of the Byzantine style ever attained.

Another church which was rebuilt by Justinian after the conflagration and survives to the present day is S. Irene, a little to the north of S. Sophia. It is also a domed building but of the basilica form, and is the only church at Constantinople which the Turks did not turn into a mosque. They have used it as a museum or store of ancient firearms, and have kept it jealously closed. It is difficult to view, for in order to visit it a special permit has to be obtained from the government.



SUPERB ARCHITECTURE THAT WITHSTOOD GOTH AND ARAB, PERSIAN AND BULGAR

Upper photograph The ruins of the turreted walls of Theodosius II who reigned after Theodosius the Great from 408 till 450 built to protect the inland side of the town They ran from the Sea of Marmora to the Golden Horn, being joined there by the sea walls of Constantine Lower picture A superb ruin on the sea wall of Constantine the so called Palace of the Emperor Justinian Notice the ornamental windows and the large stones built into the lower courses of the wall Far indeed must have been the white sails silhouetted against the grim battlemented turrets as the galleons rode on the waters of the Bosphorus



JUSTINIAN'S CLOISTERED RESERVOIR

Called by the Turks the "Hall of a Thousand and One Columns" these magnificent subterranean cloisters were built by the Emperor Justinian to collect for his citizens the water brought by aqueducts from the hills of Thrace. There are over two hundred columns that support the myriad domed roof.

None of the other buildings which were burnt down and built in greater splendour by Justinian, has withstood the forces of destruction. No traces of the Senate House or the Baths of Zeuxippus or the great Palace remain. Of sacred buildings, the most important of those erected by Justinian, next to S. Sophia, was the Church of the Holy Apostles situated in the middle of the city, on the summit of the central hill. It had been originally built by Constantine as a basilica, with a round edifice adjoining it to be the imperial mausoleum. It had suffered injury from earthquakes and Justinian decided to rebuild it on a different plan, as a Greek cross with four equal arms and five domes. One of the worst acts of the Turkish vandalism was the complete destruction of this monument, the sepulchral church of the emperors and the erection of the great mosque of Mahomed the Conqueror on its site. Not a trace of it remains. But very full descriptions of it are preserved, and the Church of S. Mark at Venice, which was built on the same plan, gives a good idea of what it must have been like.

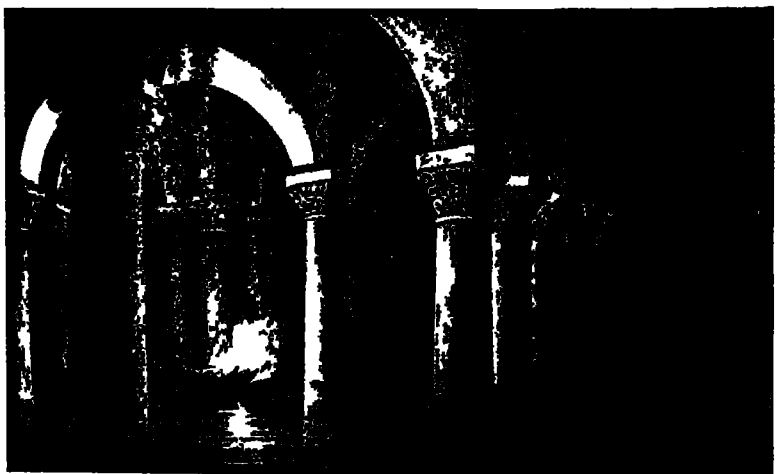
We have, however, a small and interesting church in very good preservation which was built by Justinian and Theodora at the very beginning of their reign, the church dedicated to SS. Sergius and Bacchus, which the Turks

turned into a mosque and call "Little S. Sophia," situated close to the shore of the Marmora, under the hill on which S. Sophia stands. It is an octagonal church with a dome, and it is by no means improbable that the skilful architect who planned it was Anthemius himself. In the inscription on the frieze that runs round the octagon can still be read the names of the Emperor and Empress.

This church stands quite close to the ruined building which is known as the "Palace of Hormisdas," and also as the "House of Justinian," because Justinian resided there before he ascended the throne. It was close to the western boundary of the Imperial Palace, and after his accession

Justinian extended the grounds so as to take it in.

Of the aqueducts which supplied the city with water carried from the Thracian hills there is within the walls only one small piece to be seen, near the centre of the city. But there were numerous cisterns and reservoirs, some opened and some covered, from which the inhabitants drew their water. Two magnificent underground reservoirs were constructed by Justinian and still exist. They are now known by Turkish names, Yeri Batan Sarai and Bin bir Derek, and are really underground pillared palaces. The cistern of Bin bir Derek ("one thousand and one columns")



EERIE MAGNIFICENCE OF YERI BATAN SARAI

Surpassing even Bin bir Derek (shown above) is the other reservoir, known as "The Underground Palace", it is still used to store the city's water, and visitors testify to the weird splendour of its many arches. There are three hundred and thirty marble columns, arranged in parallel rows, and the impression given by them is that of a partially submerged cathedral.



FROM AN OLD ROMAN QUADRIGA HORSES WHOSE HISTORY HAS BEEN EVENTFUL
 Now adorning the main façade of S. Mark's, Venice, these beautiful animals once stood over the Triumphal Arch of Nero in Rome. Later they were transferred to Trajan's Arch, and afterwards they were taken to Byzantium by Constantine. In 1204 the Doge Dandolo brought them to Venice, but from Venice they were looted by Napoleon to grace the beautiful arch in the Place du Carrousel in Paris. They were returned to Venice however, in 1815. Their place there being a conspicuous one for Austrian aviators during the Great War, they were temporarily stored below ground, but after the Armistice they were set up again.

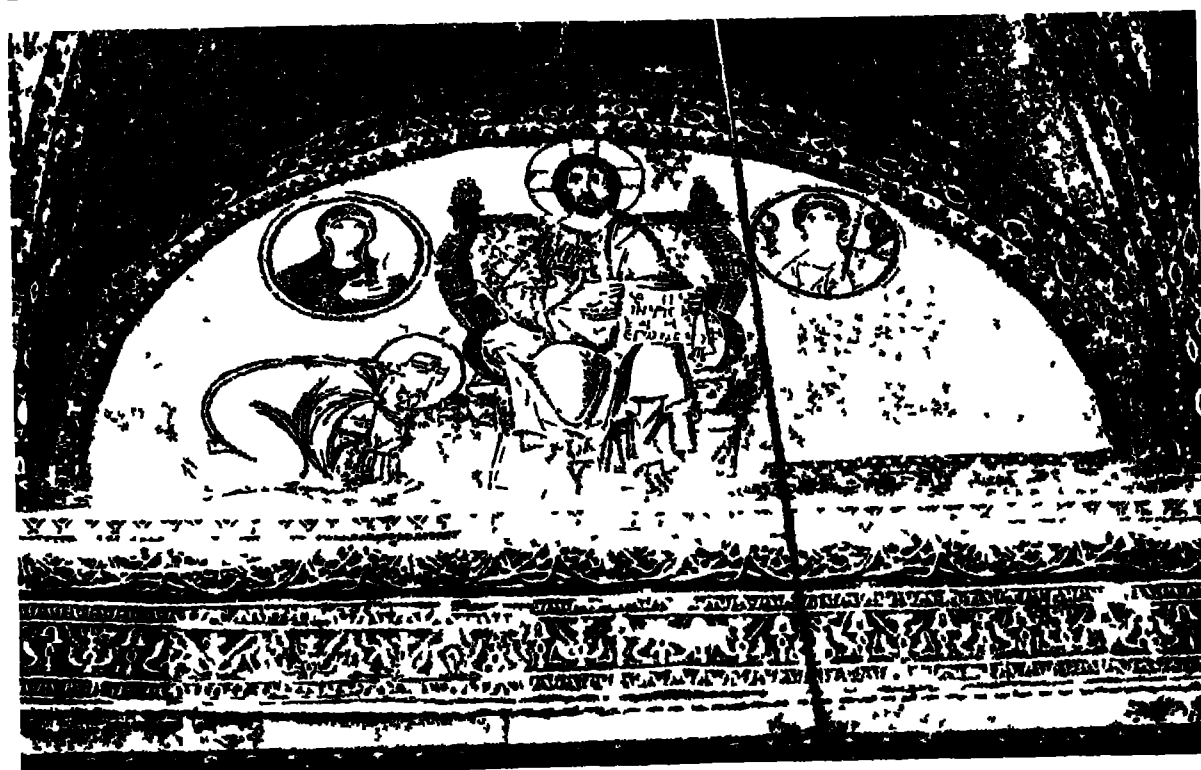
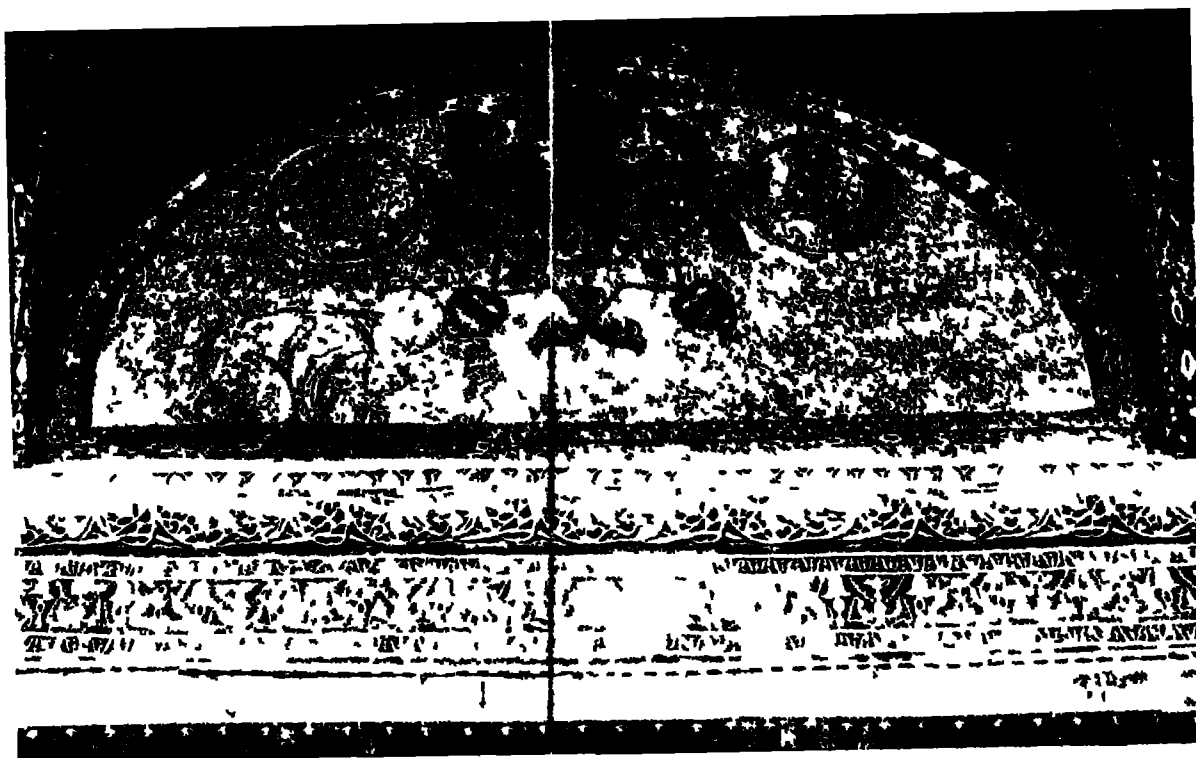
Photo by Donald McLeish



Courtesy of The Daily Telegraph

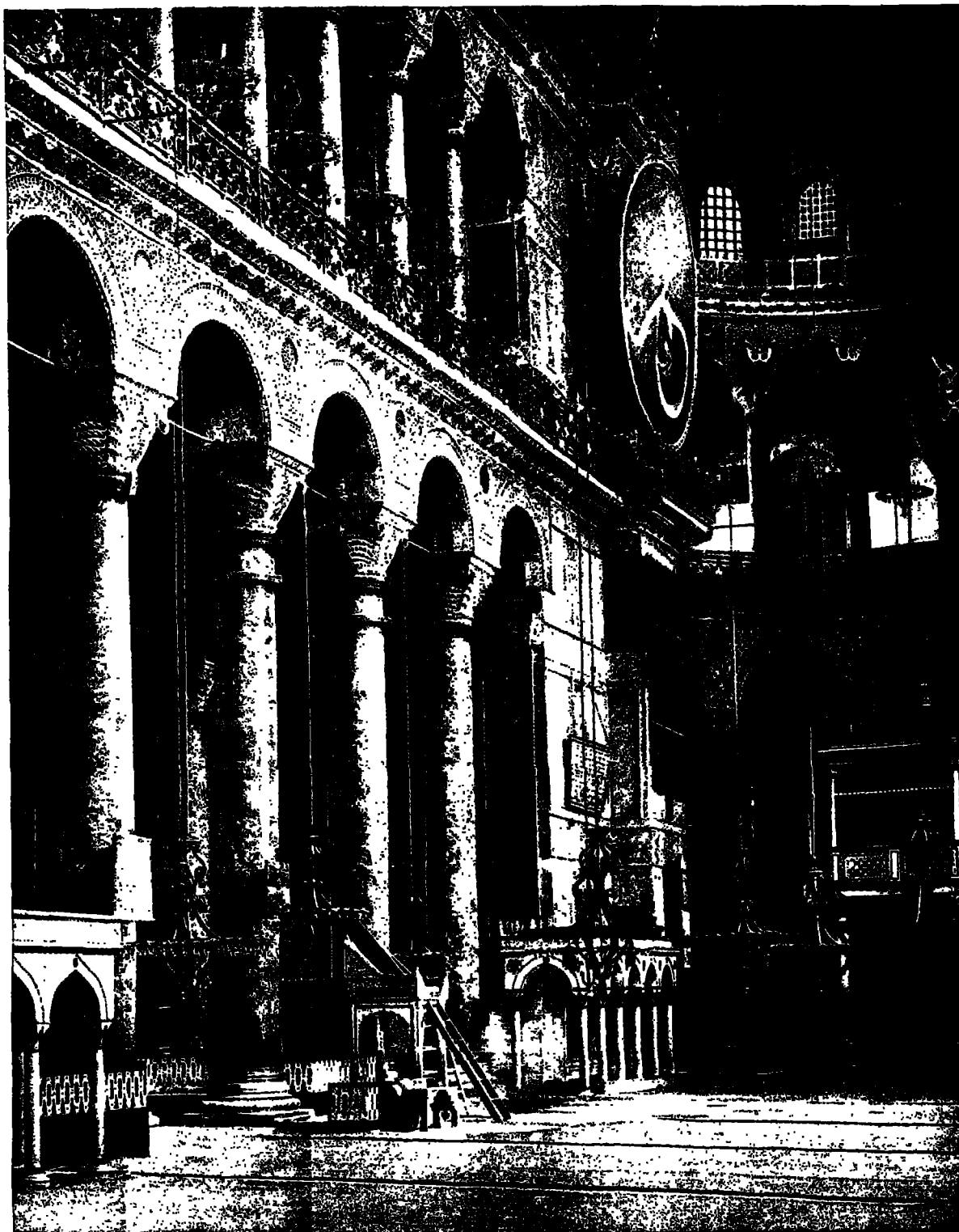
CONSTANTINOPLE AS IT PROBABLY APPEARED A THOUSAND YEARS AGO

This reconstruction drawing of Constantinople as it was in the tenth century is the work of a Turkish artist and is based upon authentic historical documents. The salient feature in the view is the U-shaped Hippodrome, with the churches of S. Sophia and S. Irene on the far side of the Augusteum. Most of the area in the foreground between the Hippodrome and the Sea of Marmora is occupied by the buildings of the imperial palace, and on the extreme right is the Column of Claudius Gothicus, set up in A.D. 267. From the Augusteum the course of the main street, the Mese, is indicated by the dotted line, leading on through the Forum of Theodosius towards the Golden Gate.



EARLY CHRISTIAN MOSAICS REVEALED IN THE MOSQUE OF S SOPHIA

In 1931 the government of Mustafa Kemal Pasha granted permission to the Byzantine Institute of America to uncover, clean and generally conserve the mural decorations of S. Sophia, obliterated many years ago by whitewash or paintings in deference to Moslem opinion. The illustrations above are of the tympanum, or central lunette, in the narthex or entrance hall. upper photo: lunette before restoration below: after the covering of paint and gold leaf had been removed, thus revealing the enthroned Christ medallions of the Virgin and the Archangel Gabriel, and (kneeling) the emperor Leo VI.

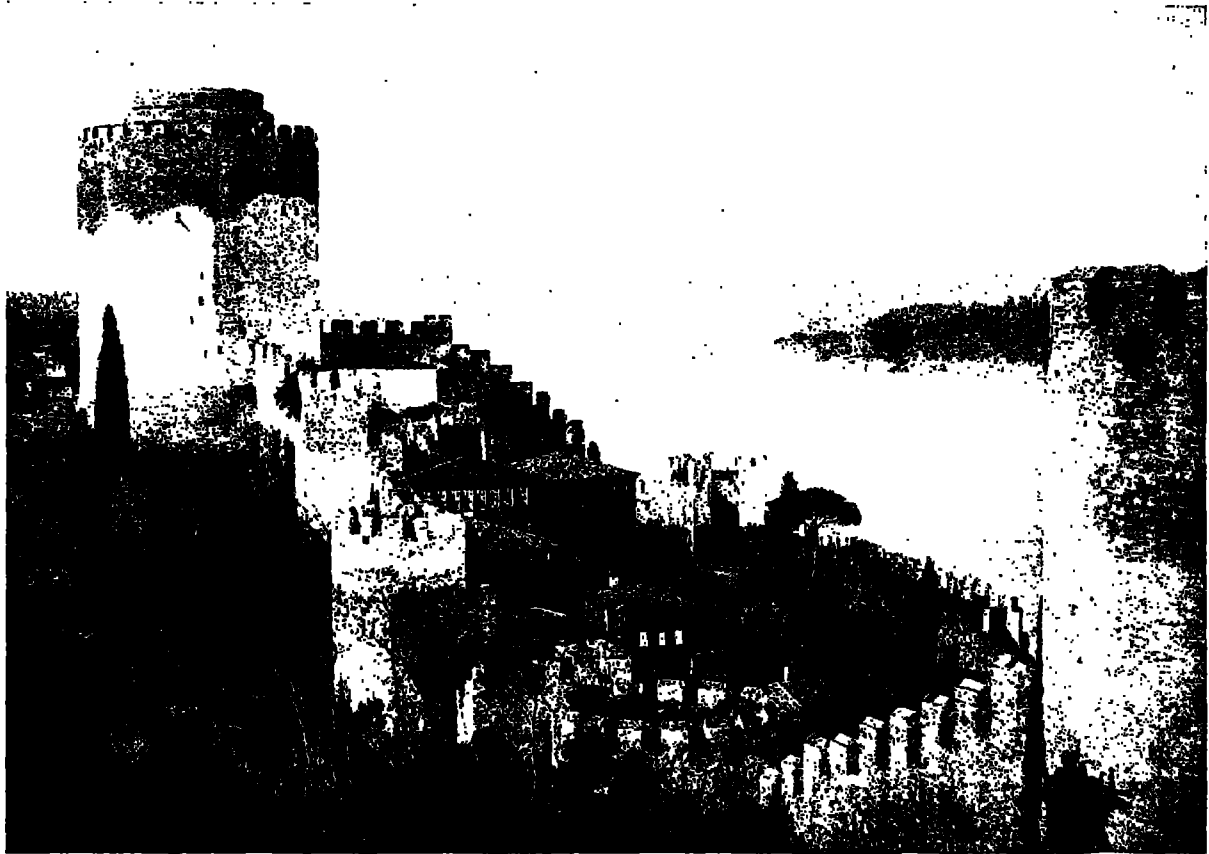


COLUMNS OF PORPHYRY AND WONDERFUL FRETTED ARCHES IN JUSTINIAN'S TEMPLE

Almost overpowering in splendour is the interior of S. Sophia ; for its adornment the treasure of nearly every country of the later Roman Empire was requisitioned. These monolithic columns of jasper and porphyry once adorned the pagan shrines of Asia Minor and Greece ; Rome, too, contributed a share to this "terrestrial paradise." Little did its early devotees imagine that its precincts would later be the fane of the Prophet of Islam, for ever since May 29, 1453, when, sword in hand, the janissaries rushed into the temple precincts, S. Sophia has been a mosque dedicated to the religion of the Prophet of Mecca.

was built in A.D. 528. It is a structure in two storeys, and 212 columns have been counted supporting massive domes; the area is about 70 yards by 60. These subterranean halls, with beautifully finished columns and capitals, must have been among the most attractive sights for

had only to get into a boat and within an hour they could be at some charming spot on the Bosphorus. Scutari (Chrysopolis), Kadi-Keui (Chalcedon), the eastern coast of the Bay of Nicomedia, and the shores of the Marmora from the Golden Gate to the Palace of Hebdomon (Makri-Keui)



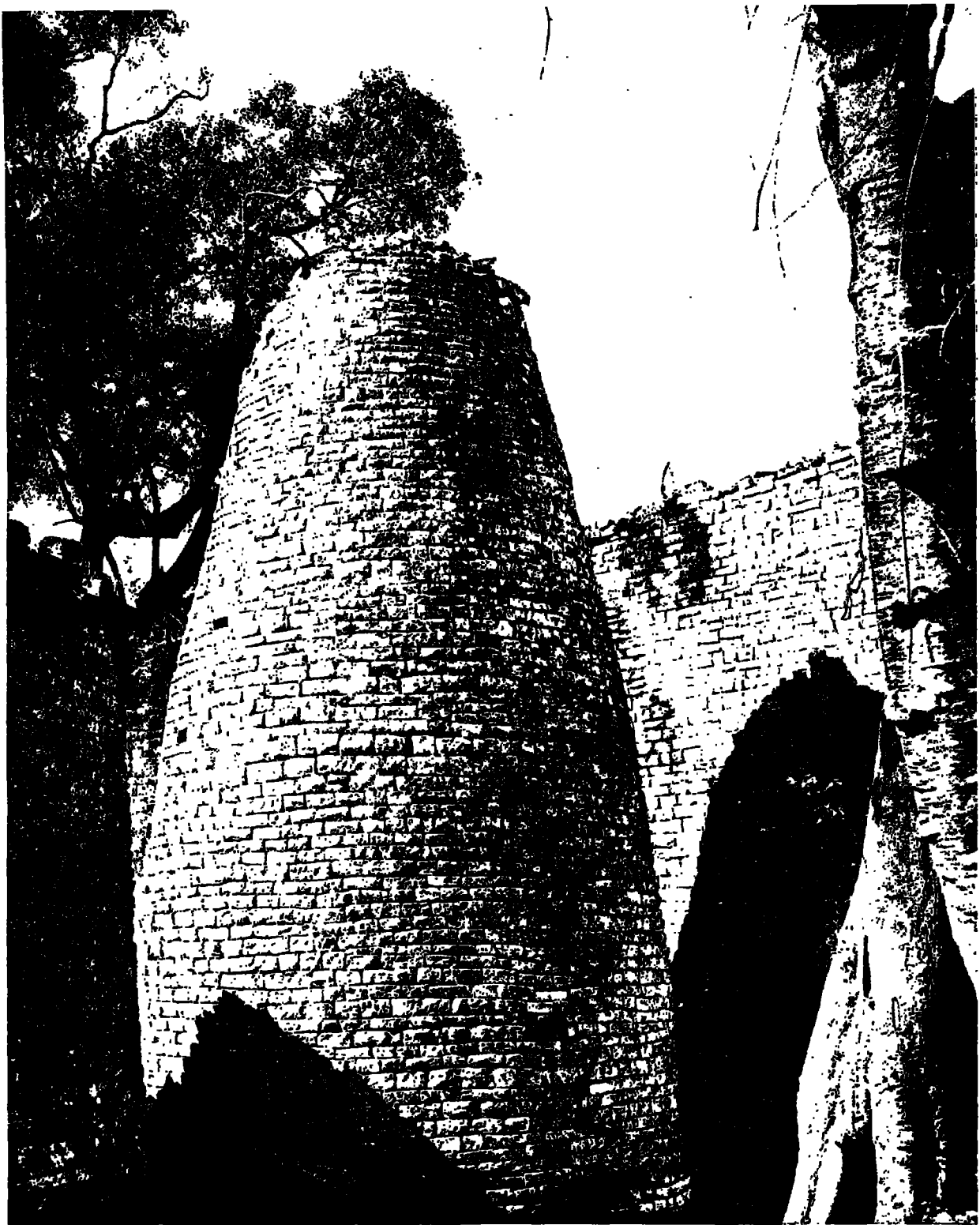
BUILT UNDER THE WHIP OF MAHOMED THE CONQUEROR: RUMELI HISSAR

Here, where the Bosphorus closes to its narrowest point and the shore of Europe all but touches Asia, stands this fortress castle of Rumeli Hissar, with its surrounding battlemented outworks. It was built by forced labour by Mahomed II. in five months from materials from neighbouring buildings, as a preliminary to his siege of the city, and the plan is the monogram of the Prophet, Mahomed's namesake. To-day Rumeli Hissar is occupied by professors and students of a modern American college. Many and paradoxical have been the vicissitudes of this Rome of the East, for, in S. Sophia, Islam has supplanted Christianity, and in Rumeli Hissar the people of a Christian nation occupy the fort of a Mahomedan prince.

visitors who came to see the wonders of Constantinople in the days of Justinian. Even to-day, after centuries of neglect, they are amazingly interesting and impressive.

The immediate surroundings of Constantinople offered the inhabitants of the well-to-do classes great conveniences for villa life. At Rome people who wanted to enjoy sea breezes in the heat of the summer had to make journeys of 15 or 20 miles to reach the coast, and most of the rich people preferred the mountain air up in the Sabine and Alban hills. But at Constantinople they

were suburbs forming a greater Constantinople, of which (city and suburbs together) the population in the time of Justinian can hardly have been less than a million. On the little peninsula of Phanoraki, south-east of Chalcedon, the Emperor had a palatial villa, called Herion, to which the empress Theodora used to transport her court every summer. It is remarkable that in those days the Princes' Islands which lie opposite this coast and have been in modern times one of the most favourite summer resorts of the residents in Constantinople were but little frequented.



British South Africa Co.

MYSTERIOUS RELIG OF A LONG-FORGOTTEN CIVILIZATION

Two conical towers, almost certainly phallic symbols, are among the most notable features of the Zimabwe ruins. The larger cone, representing the male generative power, is a perfectly solid structure, 37 feet in circumference at the base and 31 feet high on one face and 26 feet high on another. No mortar or cement was used in its construction, but the dressed blocks of granite are so beautifully adjusted that a knife blade cannot be inserted between them. The smaller conical tower, symbolising the female generative power, stands close beside the larger one.

The Master Builders. VIII.

Zimbabwe's Ruins of Mystery

By Ian D. Colvin

WHEN the Rhodesian pioneers burst into Mashonaland, and spread over the country in search of gold, they were vastly surprised to find that they had been anticipated. Over a great area of gold-bearing country, 600 by 700 miles in extent, they found open workings and closed mines reached by shafts which went down to a depth of from 70 to 150 feet, and worked-out reefs to lengths of from 300 to 7,500 feet. The bygone miners must have been industrious beyond belief, since they worked in rock so obdurate that the same sort of reef is nowadays blasted with dynamite, and yet they removed many million tons of ore. It is a practical testimony to their skill that the modern engineers follow to this day the lines of their ancient workings which are so old that they are silted to the top with natural soil, so that the deepest open mines are level with the country round about, and trees grow where there were once yawning cavities.

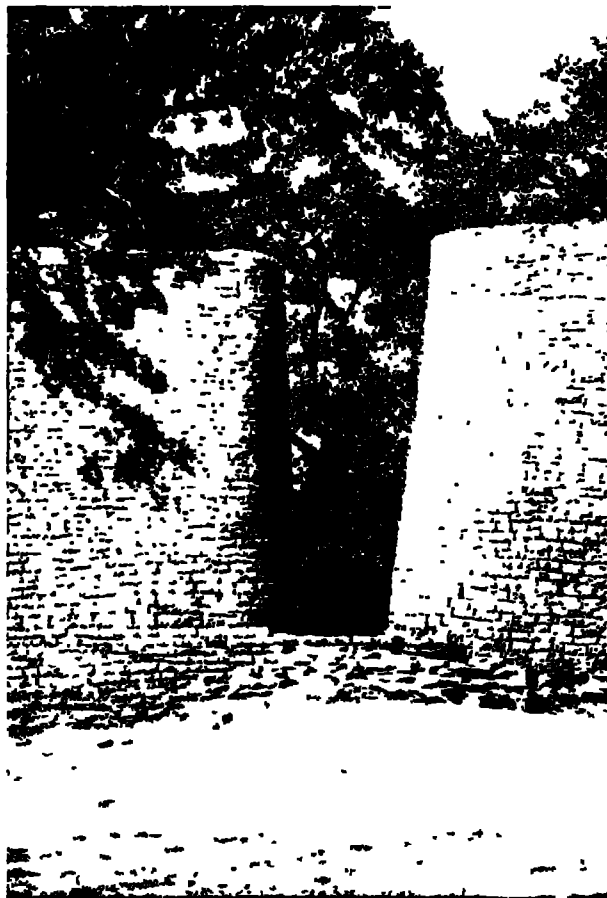
In the face of a phenomenon so impressive and so unexpected, the pioneers were tempted to plunge into wild surmise, and confidently attributed these ancient workings to the Egyptians, the Phoenicians, or the Queen of Sheba. Their excuse for such romantic hypotheses lay in the fact that such Africans as they knew had no knowledge either of the mines or of mining.

They were faced, moreover, by another phenomenon hardly less impressive. Whereas the surrounding natives lived in huts made of reeds and clay, the area between the Limpopo and the Zambesi was strewn with buildings of stone. And in particular speculation fastened on the most impressive if not the largest of these remains, the 'temple' and the 'acropolis'—

both question-begging words—of Zimbabwe. Putting two and two together, they attributed the buildings and the mines to the same authorship. Here, they said, was ancient Ophir, that city from which Solomon obtained the gold with which he beautified the temple. These imaginative hypotheses were enlarged and decorated by the early investigators, until the facts were obscured in a tangle of theorisings, all drawn from the Oriental world, and none condescending further than some hundreds of years before the birth of our Lord.

In 1906, however, a new and discordant note was struck by the publication of Dr. David Randall MacIver's 'Mediaeval Rhodesia.' This Egyptologist had investigated the problem on the spot in 1905, and

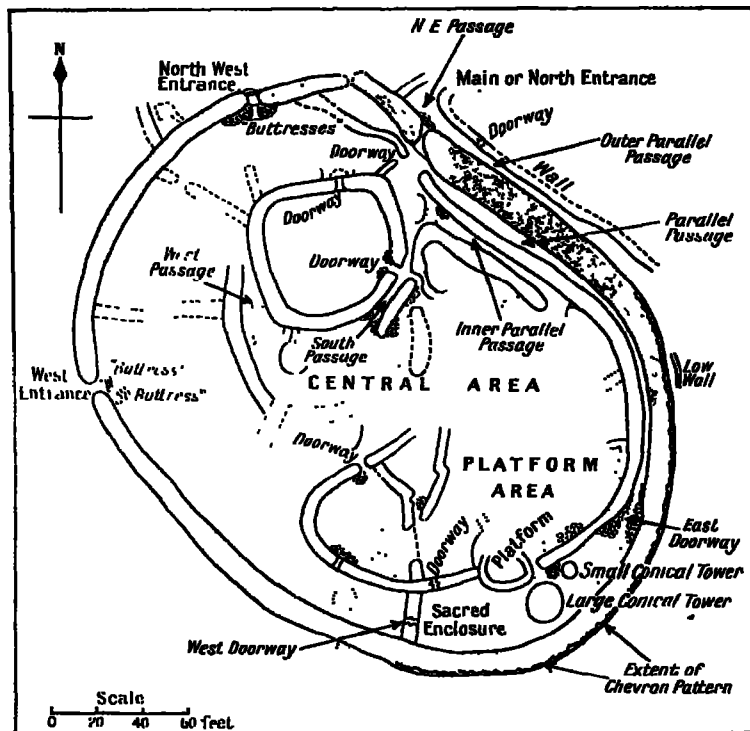
had come to the conclusion that the remains were not more ancient than the fourteenth or fifteenth century A.D., that there was no trace in the architecture of Oriental or European style of any period whatever, and that the remains were in fact native African. These conclusions started a controversy in which the recent expedition of Miss Gertrude Caton-Thompson, Miss Norie and Miss K. Kenyon is the latest but is unlikely to be the last word. At one of the meetings of the British Association at Johannesburg, in August 1929 Miss Caton-Thompson answered Dr. Frobenius, who had declared that Zimbabwe was a relic of an Eastern culture thousands of years before Christ. She founded her arguments, like Dr. Randall MacIver, less upon theory than the results of actual excavations—which she had carried out in a number of places, through the foundations down to the bedrock. What seemed conclusive to both were the



CHIEF PORTAL TO THE SANCTUARY

Semicircular steps led up to the main entrance of the Temple, a passage 15 feet wide opening between rounded ends of the gable wall. The granite blocks used were not quarried, but are natural flakes of the native rocks, roughly trimmed. No mortar or cement was used except in laying out floors and steps.

S. Rhodesia Govt.



SKETCH PLAN OF THE ELLIPTICAL TEMPLE

In general design and construction the Zimbabwe building named the Elliptical Temple by Theodore Bent has many parallels in Rhodesia. It is an irregular ellipse, with a maximum length of 292 feet and a maximum width of 220 feet, and is divided into nearly equal portions: a northern, probably residential, part and a southern part containing a sacred precinct, the whole building thus constituting the Great Chief's Kraal of the old Monomotapan capital.

fragments of Oriental porcelain, which they both found and were able to date by the glazes. Arab glass, Persian faience, Nanking china, all these postulated dating limits between 600 and 1300 A.D. And like Dr. MacIver, Miss Caton-Thompson rejected the theory that Zimbabwe was built by an alien race. 'Instead of a degenerate offshoot of a higher Oriental civilization,' she said, 'you have, I believe, a vigorous native civilization unsuspected by all but a few students, showing a national organization of a kind, of originality and amazing industry.'

Such then is the general position of the controversy; but before going further into it, let us look a little more closely at these curious remains.

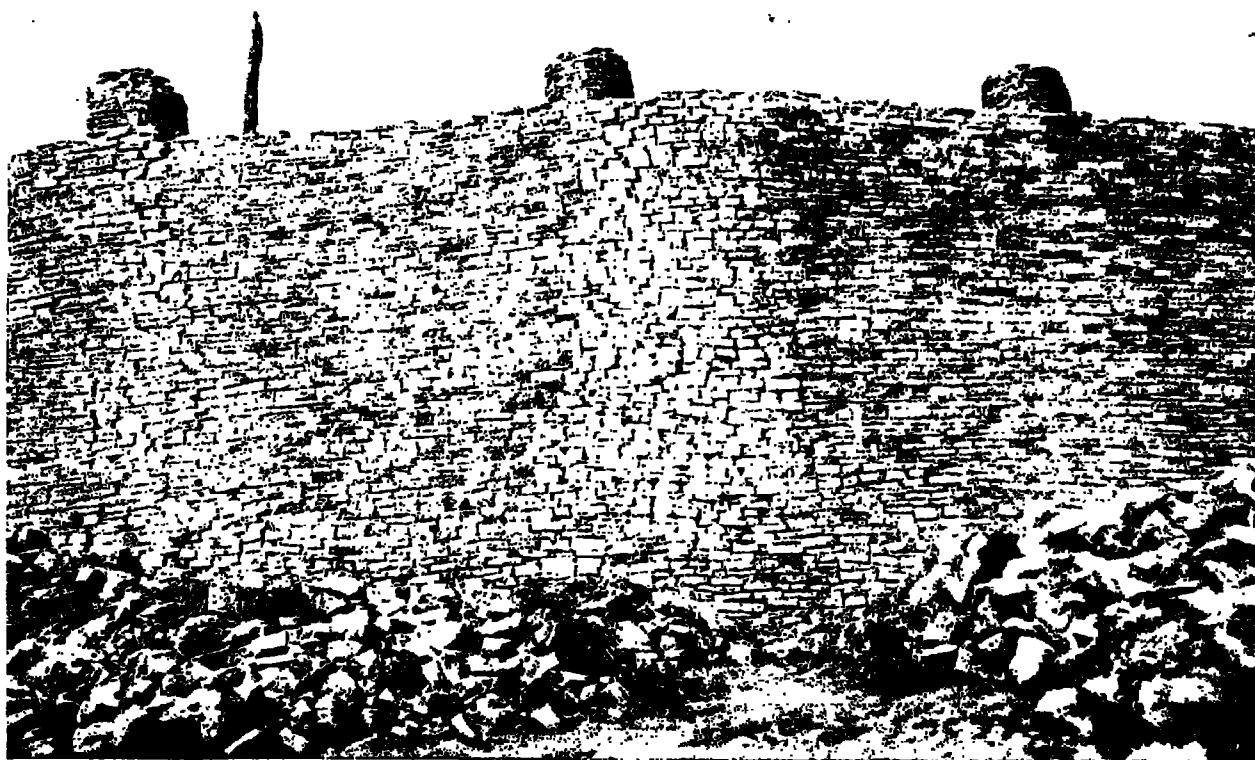
The main building at Zimbabwe—I hesitate to call it a temple—has for its chief feature a high containing wall, built in an irregular ellipse. Let the reader imagine a great horseshoe of masonry thirty feet high, with gaps at either end to serve as entrances, and two more crescent walls with another gap between them enclosing the base. The area thus enclosed would be roughly, using external measurements, about 300 feet by 230 feet, and the interior of this enclosure contains other walls, one of them running along the eastern side of the outer wall so as to form a long, deep and narrow passage. There are besides the remains of a roughly circular inner enclosure in the northern part of the area, and two

curious cones or towers at the other end with a platform, and the remains of several other walls and passages. It is difficult to see any plan, or either rhyme or reason, in the general layout, which is altogether eccentric and irregular, like a castle built by children in the sand.

There are traces of a cement pavement which still forms the floor in the long, deep passage, and at this level the walls are pierced by numerous drains. It is certain, however, from the structure and shape of the place that the walls were never intended to carry a roof. The entrances are approached, both from the outside and the inside, by steps in such a way as to remind one of the stone stiles seen in England, but there is no trace in these outer entrances of lintels to enclose doorways. The only surviving ornamentation is a double course of chevron pattern, made by tilting the stones against one another, which runs for a considerable length near the top of the outside wall, and a series of granite monoliths fixed like upright posts along the summit. The walls are massive, and taper from about 10 to 16 feet at the base to about 8 or 9 feet thick at the top, and they are built as 'drystone dikes' are built in Scotland—without mortar.

The manner of this building is curiously irregular. Where two walls meet there is no attempt to unite or interlock them, and while some of the building is smooth and regular, other parts are rough and careless. The stones are mainly rectangular blocks of granite averaging about 6 by 12 inches, and the use of such blocks in such numbers is very impressive at first sight. But the truth is that these stones were neither quarried nor chiselled. Over that part of Africa there is a plentiful outcrop of granite which rises above the ground in huge bubbles of rock, the surface of which flakes away under the weather like the flakes of an onion, so that the builders had merely to break them up with hammers to produce the effect of quarried and dressed stone. Mother Nature provided her children with bricks almost ready made.

WHAT was the purpose of this great enclosure? The temple theory first propounded by Theodore Bent, in his 'Ruined Cities of Mashonaland' (1891) rests chiefly on the two solid conical towers, which he and others have taken for phallic emblems. These towers have been partially destroyed, but enough of both remains to suggest by their shape the plausibility of the explanation. On the other hand it is possible that these towers were built as cairns over some departed chief, or for some other purpose to which we have not found the key. The same may be said



WESTERN 'TEMPLE' OF ZIMBABWE'S GREAT DEFENSIVE ACROPOLIS

On the top of the Zimbabwe Hill stand the ruins of the Acropolis, a natural stronghold fortified by massive and excellently constructed work designed by expert military engineers and comprising principally two temples. Of these, the Western 'Temple' stands flush with the cliff face, with a wide prospect. Its outer wall, 31 feet in height, was decorated along the summit with small, conical towers equidistant from one another, and with tall slate monoliths, as seen in the lower photograph. Near the Eastern 'Temple' of the Acropolis is the gold furnace enclosure where evidence of gold smelting in early times has been obtained.



BETWEEN THE DOUBLE WALLS OF THE TEMPLE A TRIUMPH OF ZIMBABWE'S ARCHITECTS
 Immediately within the north gate of the Elliptical Temple a narrow path turns sharply to the left and runs round a third of the circumference between an outer and an inner wall to the great sacred enclosure with its altar in the south east quarter. Indeed at one point in this section there is a third wall making a triple fortification. The figure in the centre will show the height of the outer wall—about 3½ feet at this point—and the broken inner wall on the right shows the style of masonry, regularly laid on the outside but somewhat irregularly in the middle.



SHADED BY ANCIENT TREES: NORTH-WESTERN ENTRANCE TO THE TEMPLE

The "northern" entrance is actually rather north-east, but it is so slanted in the thickness of the walls as to face due north, a fact which may be of astronomical significance. But besides this entrance there are two others farther to the west, of which this is one. It pierces a section of the wall which is without decoration and of decidedly inferior workmanship, though whether this argues a later period of construction is uncertain; perhaps the work only had to be completed hurriedly.



INTRICATE LABYRINTH OF RUINS WITHIN THE WALLS OF THE TEMPLE

Within the temple-area, 292 feet long, the walls, courts, stairs, and passages are of bewildering complexity and form a veritable maze. At one point is what appears to have been an altar, and elsewhere are standing monoliths—"baetyls" or sacred pillars, perhaps. And everywhere the discoveries—phallic emblems and the like—go to prove the religious character of the building. Some have inferred a connexion with Sabaea (or Southern Arabia); but the civilization may well have been a native product.

of Bent's 'altar,' which may, or again may not, have been used for sacrificial purposes. We must always beware of drawing too confidently upon the familiar to explain the unknown.

In any event, only a corner of the area is occupied by these intriguing objects. To what end was the rest of the interior designed? F. P. Mennell, the curator, in his 'Zimbabwe Ruins' mentions the tradition of the Matabele, who, of course, are themselves new-comers that the buildings were raised by the 'Abalozi' for cattle kraals, and he adds that there is still in Mashonaland the remnant of a tribe, known to the Makalanga as Abarozwe and spoken of as builders. It is noteworthy that the 'great place' of Lobengula at Buluwavo was divided into 'cattle kraal' and 'goat kraal.' It is easy to imagine that the dominating idea of a tribe so situated is to secure their herds at night from the lions, leopards, wild dogs, hyaenas and jackals that infest those regions. The surrounding wall, then, might well be the cattle kraal of a tribe or chief, and the enclosure might be used also to surround the huts of the chief and his wives, his magicians and medicine men. Here is an explanation more commonplace and therefore less popular than those generally current, but it need not be, for that reason, contemptuously dismissed.

As for the so-called Acropolis, it is as radically inferior to the citadel of Attica as a pot of African earthenware to a piece of Chinese porcelain—in fact, as the work of the savage to that of the civilized man. Its foundation is a great natural mass of granite rock and boulder, which rises over two hundred feet above the plain of the neighbouring 'temple.' Every nook and cranny of these rocks has been ingeniously utilised by the builders. 'Where,' says Dr. MacIver, granite boulders had already outlined an enclosure, 'they adapted their plan to the form thus suggested to them and completed the apartment with masonry. Clefts have been converted into passages, jutting crags enlarged into platforms, and gigantic rocks utilised to form the bases of artificial walls.' It is, in fact, as he describes it, a 'labyrinth,' approached only, and with difficulty, by two steep and tortuous paths.

Here again the masonry is primitive and barbarous. No lines are right; no mortar is used. As for the decoration, it takes the same elementary form as in the 'temple' below, and there is no doubt that the two buildings were created in the same tradition if not by the same architect. At the approach of danger the dwellers in the valley took refuge in the hill.



INTERIOR VIEW OF THE SACRED ENCLOSURE

What is known specifically as the Sacred Enclosure lies on the south-east side of the Elliptical Temple. It is about 120 feet long and is divided into two almost equal portions by the large conical tower. Besides the cones, this area contains a confusion of remains—platforms of stone and cement, and various other structures, one of which may have been an altar.

When these buildings were explored by Bent, and again by Hall, several sculptures of birds and crocodiles, finely carved, as finials to monoliths of talc or 'soapstone,' were discovered and removed. These, like the other monoliths, seem to have been built into the tops of the walls, a little after the manner of gargoyles in Gothic architecture—not, however, horizontally but perpendicularly.

Besides these finds, numerous objects in gold, copper, and iron were recovered. What chiefly excited speculation were the ingot moulds of soapstone, and a soapstone cylinder with rosettes, resembling known examples of Phoenician pattern. There were besides gold tacks and plates, as for plating wood, gold wire, bangles, beads, and so forth in some profusion. Sir John Willoughby, in his 'Further Excavations at Zimbabwe,' mentions 'numerous fragments of clay crucibles containing small beads of gold,' although there are no old workings within a radius of about twenty miles of the ruins.

Zimbabwe, as already mentioned, is only one of a very large number of stone ruins scattered over this region of Africa. Thus, for example, on the high plateau of Inyanga, to the north of Umtali, there are many rough stone forts, and—more curious—circular pits lined with stone, and approached by a stone-sided-and-roofed corridor. These pits, indeed, are not sunk in the ground, as originally supposed, but are the centres of stone-built platforms placed on the hill-side. Pilgrims in search of the picturesque called them slave-pits; but those who have felt the bitterly cold south-easterly winds which frequently search those high regions more reasonably surmise that they were made as shelters for the flocks of a shepherd race, a guess which seems to find

support in the fact that the low corridors were blocked by a bar of wood placed across the passage and resting in holes between the stones provided for the purpose. One of these wooden bars was actually found in situ by Dr. MacIver in the passage of a similar pit in another series of ruins not far away. That investigator, nevertheless, advances the theory that these pits were part of a scheme of defence, although how they could be defended he is rather at a loss to explain.

THE area in which this particular pit was found 'extends,' Dr. MacIver says, 'over more than fifty square miles, and there are few places within this large area where it is possible to walk ten yards without stumbling on a wall, a building or an artificial heap of stones. . . . The photographs show innumerable lines running one behind the other over the whole ground. These are all built walls, row on row, covering plateau and hill alike so thickly that it is most fatiguing and difficult to make one's way across them. Almost everywhere where stones could rest they have been piled one upon another. The inaccessible upper cliff of the great mountain has necessarily been left untouched, but the lofty peak to the north of it is walled to within a few feet of its summit. . . . There are nine or ten well-defined hills in the circle of view as one stands on a central point almost two miles north of the great mountain. Each of these constitutes a separate unit, complete with its own buildings, and divided at the bottom from its neighbour by a boundary wall. Such a boundary is the first in a series of concentric lines which rise one behind the other, only a few feet apart, till the summit of the hill is attained. Then, arrived on the top of the ridge, after mounting over sometimes only thirty, sometimes fifty or more, of these girdle lines, the explorer finds himself in the heart of the village which its ancient inhabitants made so difficult of access.'

Dr. MacIver surmises that these hill villages were 'inhabited by a people who must have lived in perpetual apprehension of attack, and therefore protected themselves behind one of the vastest series of entrenchment lines to be found in the world.' It may be so; but I have seen hillsides in India and elsewhere terraced with dry-stone walls in the same manner for purposes of cultivation.

FURTHERMORE, in Inyanga the water was once led by a series of finely engineered cuts or furrows from the moist and seaward side of the mountains to the less favoured western slopes. These irrigation canals and—*pace* Dr. MacIver—cultivation terraces suggest that this now almost desert country once supported a close population of agricultural and pastoral people, who also smelted iron and mined gold.

Who were they?—whence came they?—when did they live?—what became of them?—are questions to 'tease us out of thought.'

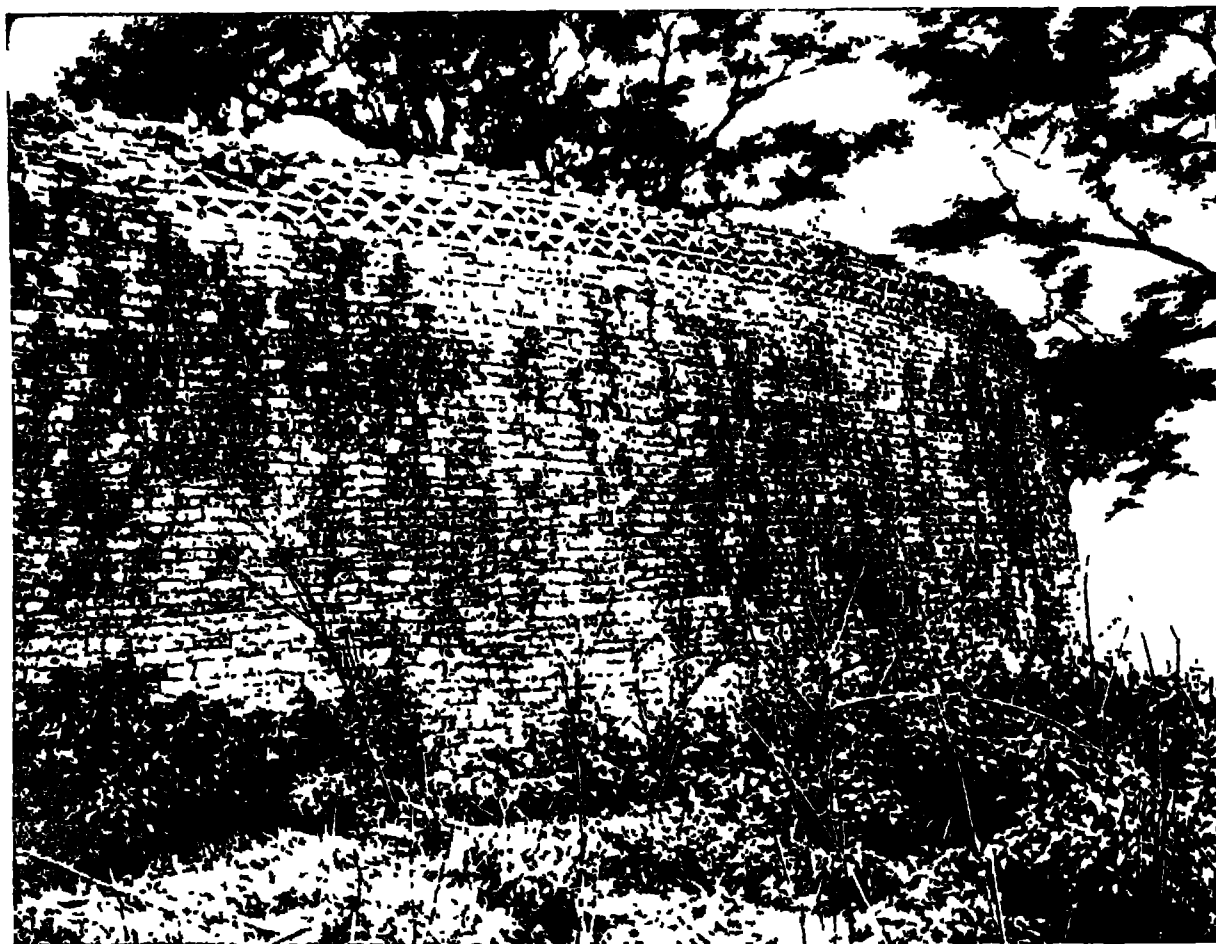
Inquirers have turned to the Portuguese archives for enlightenment: but have been rewarded only by a

few tantalising glimpses. And this is not altogether surprising, for between the great area of ruins and the east coast of Africa there is a fall of thousands of feet through a trackless and difficult region of foothills and feverish jungle some two hundred and fifty miles broad. The Portuguese, although on the Zambesi they established posts as far inland as Sena and Tete, generally preferred the coast. When they first came, towards the end of the fifteenth century, they found settlements of Arabs who in those times drove the carrying trade of the Indian Ocean, and treated them as enemies to be exterminated. If these coast Arabs knew the secrets of the interior they did not disclose them. There was, however, known to be a considerable trade in gold, brought in quills, and in the form of wire, from the interior, and this trade the Portuguese continued. In 1572 Francisco Barreto pushed up the Zambesi at the head of a strong expedition, and defeated the 'Mongas,' but was conquered by the climate. Homem, his successor, with the remnant of his men, made a new attempt by way of Sofala. They expected, says the chronicler, to see everything gold; but when at last they got to the mines, they found only a few deep holes in the earth, and some Kaffirs painfully at work. 'With the earth which they dug up they filled their basins and went to wash it in the river, each one obtaining from it four or five grains of gold, it being altogether a poor and miserable business.'

ACCORDING to these chronicles, and the old maps, 'all Kaffraria, from Cabo das Correntes to the great river Zambesi,' was ruled by a supreme chief, or king, with the hereditary title of Monomotapa, and there are hearsay stories in the records of his capital (or capitals), the Zimbaoe, as it was called. Thus Manuel de Faria e Sousa speaks of 'some buildings of wonderful structure, with inscriptions of unknown characters, but the natives know nothing of their foundations,' and De Goez also speaks of a great stone building with an inscription over the door, although in those days, as in these, the natives of Africa 'never raised stone upon stone,' and lived only in huts of reeds, straw and mud.

As for the Arab records, they suggest a trade with East Africa from about the tenth century of our era, and make mention of Sofala, in particular, as a land rich in gold; but they are no less vague than the Portuguese about the interior of the country.

It may be taken as established that the buildings were already there—and already old—when the Portuguese first went to East Africa. It may also be taken for certain that the fragments of Chinese and Saracenic pottery were found, as asserted, under the floor of Zimbabwe, which dates that particular building as 'medieval.' But that does not end the controversy, any more than the date of the building of St. Paul's fixes the period of London. The stone and flint implements found among the debris, and the enormous extent of the gold mines, which must have been worked by the slow process of hand labour, alike suggest an occupation not of



by Rhodesia Govt

CHEVRON PATTERN OF THE FACADE OF THE TEMPLE WALLS

On the upper part of the surface of the girdle wall, for a space of 265 feet along the south east and east side of the ellipse, a double course of chevron pattern has been worked out in granite blocks, tilted against one another and appearing to be in relief owing to the interstices being filled with granite slabs not brought flush to the face of the pattern. Directly over the chevron ornamentation granite and slate monoliths were set along the top of the wall, many of which are still standing.

centuries merely but of thousands of years. The ruins go as far west as Tati in Bechuanaland, and there Dr. Leo Frobenius claims to have found ceramic or hard pottery birds 'akin to that of the Ceramic period of the Eastern Mediterranean of the later stone age'. It may be so, although birds, crocodiles and other animals were still moulded out of clay in quite recent times by African natives.

Before the controversy as to the source of this culture can be settled there is still a great deal of work to be done. Most of Africa is yet unexplored from the archaeological point of view; but it is notable that at Aksum in Abyssinia there are remains similar to the Rhodesian, with Himyaritic (Sabaeans) inscriptions. Now the Sabaeans were already, in the second century before Christ, hardy mariners, who had established colonies, and—on the authority of Eratosthenes—richer than any other nation. Moreover Cosmas Indicopleustes, an Egyptian monk of the sixth century of our era, mentions that the Aksumites made an expedition for gold into a country

so far south that 'the winter of those regions coincides with summer amongst us'. This overland expedition, like the sea voyage of the sailors of Thothmes to the Land of Punt, is perhaps a little too vague to found anything definite upon; but there may yet be found archaeological links between the north and the south of Africa to reinforce that resemblance which Livingstone noted between the domestic life of ancient Egypt and the tribal customs of Bechuanaland.

What became of the people who built and mined, and irrigated and cultivated the soil in those highlands of Eastern Africa? We get a hint of their sudden and terrible end in the Portuguese archives which refer to the incursion of great hordes of savages—cannibals—into the kingdom of the Monomotapa. Those miners and agriculturists were doubtless overwhelmed and eaten by some such advancing horde. As the Matabele destroyed the Mashonas so the 'Zimbabwas,' or some other such invaders, out of the dark unknown centre of Africa, swept over this civilization and left it, as it now is, in utter and nameless ruin.

The Wonder Cities. XXVI.

Tyre and Sidon: Cities of Phoenicia

By the Rev. W. Ewing, M.C., D.D.

Author of "Arab and Druze at Home"

PHOENICIA was the name given to the Mediterranean coast land stretching from Mount Carmel in the south to Mount Casius in the north. Beyond these limits Phoenician power was exercised but fitfully. Inland rose the uplands of Galilee, Great Lebanon and Nusariyeh. The eastern boundary cannot be fixed, but the western slopes must have fallen under Phoenician influence. Between these and the shore runs a narrow fertile strip of varying width, broken at intervals by headlands that drop precipitously into the sea. Along the edge of this verdure stood the cities of Phoenicia, like pearls strung upon a thread of emerald.

The Phoenicians were Semites, allied to the Amorites and the Hebrews, brought hither from their original home near the Persian Gulf probably by the same movement of migration. They closely resembled the Canaanites in many things, while the difference in language was only one of dialect.

Although one in race, the Phoenicians were never united in a single kingdom. Their history is that of their cities each of which maintained independence under a ruler of its own. At intervals one or another attained pre-eminence and assumed a sort of hegemony, but apparently no dreams of empire were ever entertained. Important centres of life and enterprise were found at Aradus, Byblos, Berytus, Accho and many other

coastwise towns, but of quite outstanding interest were the famous cities of Tyre and Sidon. Nothing certain is known of the origin of these cities. Native traditions ascribed a fabulous antiquity to the Phoenicians. The priests of Melkart told Herodotus that their city and temple had been founded 2,300 years before his visit; that takes us back to about 2730 B.C. We reach sure ground in the Tell-el-Amarna tablets, which show that Tyre was a place of great strength in the fifteenth century B.C. Sidon was still older; for long it was the only Phoenician city known to the Greeks. Even after Tyre

took the leadership the Greeks and Hebrews spoke of the Phoenicians as "Sidonians," and King Ethbaal of Tyre is called "King of the Zidonians." In Genesis x., 19, Sidon is mentioned as a city of the Canaanites. At the conquest of Joshua it is called "Great Zidon." It suffered disaster at the hands of the Philistines, and Tyre, reinforced by refugees from the older city, held for long the foremost place.

About forty-five miles south of Beirut two rocky islands lay off the coast. Hiram I. joined them together by an embankment. He built an extension towards the shore and led water to it from the mainland. Excellent harbours for ancient shipping were formed to the north and to the south, protected by massive piers and a breakwater and connected by a canal across the island. On



SUPPOSED TOMB OF A TYRIAN KING

In page 245 will be found illustrated the famous "Sarcophagus of Alexander"; but such is the utter destruction that has overwhelmed the once mighty cities of Tyre and Sidon that there is little else of their splendour that survives to us in concrete form. Hence the unavoidable lack of photographs in this article. One monument there is, however: a tomb of immemorial age some six miles from Tyre known as the "Tomb of Hiram," the friend of David and Solomon.

By permission of the Palestine Exploration Fund

the smaller island to the south-west stood a temple of Baal, called Zeus by the Greeks. On the larger was built the city containing the royal palace, the shrine of Agenor Baal, the temple of Astarte and—the chief glory of Tyre—the splendid temple of Melkart which counted among its treasures two pillars, one of gold, another of emerald. Within the eastern walls was the Eurychoros, the spacious forum and bazaar for the transaction of business. There were many dyeing establishments, the odour of which did not add to the city's attractions. The houses of the inhabitants were densely crowded and many storeys high—higher even than those of Rome.

The total area occupied was about 142 acres. When taken by Alexander the population was about 40,000. There are many traces of the gigantic walls that girt the city, reaching on the landward side the enormous height of 150 feet. From a boat in calm weather great blocks may be seen under water, whither they were tumbled probably by earthquakes. To ancient eyes that frowning fortress in the sea must have seemed the very embodiment of safe impregnability. Along the shore of the mainland spread the city called by the Greeks Palaityros, from a mistaken idea that it was the older.

We know less about ancient Sidon. About twenty miles north of Tyre at a little distance from the shore, it stood entirely in the plain, connected, no doubt, with its chief harbour beside which the modern town is built. Unlike Tyre, it could expand at will. It was, however, more easily open to attack. Despite the mighty ramparts which the Phoenicians knew so well how to build, she often bowed down to conquerors. Few traces of the city are left above ground, but in the gardens and orchards coins, carved stones and pillars are constantly being found.

No one can tell when the present site was occupied. Remains of the old harbour are still impressive. It was formed by a chain of rocky islets running roughly parallel to the shore in front of the modern town. Towards the north this defence was strengthened by a continuous wall of huge blocks. A causeway was built connecting the coast with the most easterly island, which was probably always fortified, and on which stand the ruins of Kal'at el-Bahr. This left the entrance to the west of the island, and completely protected the harbour. Many of the blocks forming the piers have been taken away for building purposes, and rough seas now wash right over the rocks. A second but far more exposed harbour lay to the southward. The defences of Sidon would naturally be of the

famous Phoenician "triple wall" type. In certain remains we have a glimpse of the method followed in fortification. The native rock was used up to a height of about 12 feet, cut to a perpendicular face. The structure was completed by courses of enormous blocks of stone the weight of which held them in position without clamps or mortar. They were laid with ends outward, so that their length, some 20 feet, formed the thickness of the wall. Square towers of even more massive construction projected from the line, whence defenders enfiladed assailants at the foot of the curtain. The walls were pierced by posterns and gates with projecting bastions. The ditches before the walls became moats when water was available.

This use of the native rock and the employment of massive blocks is characteristic of Phoenician architecture. Here, as in other things, there is marked lack of originality. But while there was borrowing from both Egypt and Greece, we miss the Egyptian unity of design and the light, graceful beauty of the Greek. In a single mass of stone are frequently combined distinct architectural members—entire pediments and parts of supporting wall, shaft and capital of a pillar and so on. There is a preference for straight lines and right angles. The massiveness of the material made for great stability, but for which the monuments that remain could not have outlived the earthquake shocks of 3,000 years. The characteristics of the architecture are well exemplified in the "Tomb of Hiram," one of the oldest monuments in Phoenicia, six miles from Tyre.

The ancient Phoenicians are said to have been proficient in philosophy, astronomy, geometry, arithmetic and navigation; and many inventions—among them, wrongly, that of glass—are attributed to them. They were the first to voyage beyond the sight of land and to sail by night with guidance of the stars. Great feats of seamanship they achieved in vessels not larger than our herring boats.

Shut in by the mountains on a narrow strip of land along the shore where alone harbours were possible of construction, the "Sidonians" were almost compelled to become sailors. There were no possibilities of piracy and their enterprises were confined to trading. Their success was due to the skill and intrepidity of their mariners and merchants, and to the progress of their sons in arts and manufactures. The Homeric poems extol the excellence of their artistic metal work and their garments of needlework and embroidery. The products of their looms were greatly enhanced in value by the famous dye extracted from shell-fish abounding in adjacent waters, first used by

the Sidonians but known to the later world as "Tyrian purple." Their industries included the making of glass and artistic work in gold, silver and other metals, precious stones and amber. They received materials of trade by road from the great eastern hinterland, and for extended markets were bound to push out seawards.

The rich, well watered plains of Tyre and Sidon yielded grain and fruit in plenty, and famous wines were made from the produce of their vineyards. But all the world ministered to the people's needs. Great commercial prosperity brought splendour to the cities and wealth to the citizens who went to great lengths in luxury and pleasure, while many vices were rampant in their midst. A darker Semitic strain found expression in the wild orgies of lust, self-mutilation and human sacrifice that marked the service of their gods. They were adepts in the art of kidnapping and drew profits from the slave trade.

Definite information is lacking regarding the early millenniums of Phoenician life. The familiar use of the Babylonian language and script, and especially the evidence of Babylonian influence in Phoenician art and religion, clearly point to ancient and intimate relations with Euphratean peoples. Egyptian influence is also obvious.

Thothmes I. (1541-1501 B.C.) overran the country; his son Thothmes III. (1483-1447), founder of the great Egyptian empire, reduced the cities to tribute; and Egyptian kings, not without trouble, retained supremacy till the reign of Amenhotep IV. (1375-1358). In the Tell-el-Amarna letters, in which the kings of Tyre and Sidon appear, we see the power of Egypt crumbling. For a time she kept her claims alive by occasional raids. A great migration of peoples from Asia Minor and Europe swept over the country about 1200 B.C., met defeat at the hands of Rameses III. on the borders of Egypt, and resulted in the settlement of the Philistines on the south Palestine seaboard. For the Phoenician cities ensued a period of comparative rest, only slightly disturbed by the invasion of Nebuchadrezzar I., Shishak, Solomon's father-in-law, and Tiglath-pileser I. This was a time of great prosperity in which the citizens of Tyre won special distinction.

Under Hiram I. the skill of the Tyrian workmen and artificers was already famous. They assisted in building David's palace in Jerusalem. In Solomon's day, for a consideration, they lent their aid to complete the splendid buildings on the temple hill. To Tyrian sailors the success of Solomon's maritime enterprises was due and his harem was graced by a royal daughter of Tyre. With the third king in succession from Hiram troublous years began and continued until Ethbaal,

by fratricide, cleared his way to the throne. Ahab, King of Israel, married his daughter Jezebel. Two reigns later, according to legend, Princess Elissa escaped the toils of a palace intrigue. Accompanied by many nobles, and with much treasure, she sailed westward, founded the colony of Carthage and appears as Dido in Virgil's *Aeneid*.

In 877 B.C. Sidon and Tyre submitted to the Assyrian Ashurnasirpal, and "sent him presents." The Tyrian fortress defied the prowess of Shalmaneser IV., although he was assisted by a Sidonian fleet—the enemy learned to profit by the mutual jealousies of these cities. Sennacherib carried his victorious arms along the coast but failed to capture Tyre although it was deserted by its king, Eleulaios. A revolt in the coast lands was quelled by Esarhaddon who trampled Sidon down with true Assyrian "frightfulness." Tyre again escaped capture; but at length she was humbled, and experienced unusual clemency at the hands of Ashurbanipal. The decline of Assyria brought peace to Phoenicia and recuperation to her cities. Tyre then reached her heyday, vividly portrayed by Ezekiel (xxvii-xxviii.) who also prophesies her doom.

A league was formed with Egypt and a colony settled in Memphis. At Pharaoh Necho's request, the Phoenicians dug a canal connecting the Red Sea with the Mediterranean. They sailed down the east coast of Africa, and three years later appeared at the Pillars of Hercules having circumnavigated the continent—a feat of incredible skill and daring.

Sidon, devastated by pestilence, opened her gates to Nebuchadrezzar II. The Babylonian prince captured and destroyed the town on the shore at Tyre, but the island city defied him for thirteen years. The resistance was heroic, but the long siege destroyed her commerce; Tyre was shorn of her prestige, whatever the terms of her final submission were, and Sidon resumed the hegemony of Phoenicia.

In the early days of the Persian empire Phoenicia enjoyed peace and prosperity. Obeying an edict of Cyrus the Great, conqueror of Babylon, she assisted the returning Jews to rebuild their temple. With her navy she helped Cambyses in his Egyptian campaign, but refused to use her ships against her kindred in Carthage. Her fish sellers gave trouble to Nehemiah at the gates of Jerusalem (xiii., 14). No doubt, greatly to her own profit, she helped the Persians at sea in their war with the Greeks. The transfer of her forces to the side of the enemy brought Artaxerxes III. Ochus down upon her in a towering rage. Appalled at the fate which overwhelmed Sidon, Tyre saved herself by timely submission. When

after the battle of Issus, Alexander came, Sidon, risen from her ashes, received the conqueror with open arms and put her fleet at his disposal for his attack on Tyre. Here he encountered a desperate, and for a time successful, resistance. He destroyed Palaityros and used the building materials to construct a mole 65 yards wide connecting the mainland with the island. Then by an attack by land and sea, in which the ships of Sidon played their ignoble part, he compassed the fall of the fortress. Of the Tyrians, 3,000 were slain with arms in their hands; upon crosses set up on the opposite coast 2,000 captives were crucified; and of women, children and slaves 30,000 were sold to the highest bidder. Drifting sands widened the mole and made permanent the connexion between land and island.

With the coming of Alexander night fell upon the long day of Phœnician maritime ascendancy; but as centres of industry and commerce Tyre and Sidon enjoyed no little prosperity until the advent of the Romans, who granted to both the privileges of free cities.

People from Tyre and Sidon went to hear the preaching of Jesus (Mark iii., 8). Jesus visited the district (ib. vii., 24), and thought more of these cities than of those in Galilee (Luke x., 13). They appear in Acts xii., 20. Paul spent some days with Christian brethren at Tyre (ib. xxi., 3), and touched at Sidon on his way to Rome (ib. xxvii., 3). Tyre and Sidon became bishoprics. A basilica built at Tyre by Paulinus was consecrated by Bishop Eusebius in 333; on the same site, probably, the Venetians erected the church the splendid ruins of which are still extant and in which was the tomb of Frederick Barbarossa. Jerome, in the fourth century, calls Sidon "an important city," and Tyre "the most noble and beautiful city of Phœnicia, still trading with all the world."

The first Crusaders, in 1099, making direct for Jerusalem, left the Phœnician cities unmolested. Troops issuing from Sidon to oppose them were driven back and a rich booty was taken in the district. King Baldwin I. desisted from an attack upon Sidon on receiving a sum of gold, but the city proved treacherous and was captured in 1111. Saladin recovered it for the Saracens after defeating the Crusaders at Hattin in 1187. Retiring from a battle with Melek el-Adil in 1197 the Christians, entering the place, found it desolate. King Louis IX. of France rebuilt the city with high walls and massive towers. The Templars bought it from Julian, its temporal lord, in 1260 and held it for thirty years.

Tyre, a strong fortress of the Moslems, was taken by the Christians in 1124 after a five

months' siege. The captors were surprised at its strength, its high towers and spacious houses and the beauty of its port. Saladin in vain attempted its recovery after the battle of Hattin.

In 1291 the Christians of Tyre, hearing that Sultan Melek el-Ashraf had captured Accho with horrible atrocities, slipped away by sea that evening. Next day the Saracens took possession. Sidon, too, was forsaken, and the defences of both were destroyed. Tyre was deserted and lay in ruins for centuries. The spacious buildings erected by the Druse prince Fakhr ed-Din in the seventeenth century, in his attempt to revive the city, fell into decay. Such recovery as she has experienced Tyre owes to the Metawileh, who came from the mountains in 1766, took over the ruins and built walls and humble dwellings, covering about a third of the peninsula.

Sidon was not so completely deserted, although mostly in ruins. It was still a port of Damascus in the fifteenth century, with some little trade. Fakhr ed-Din built here a beautiful palace and a great khan for merchandise. He inspired a certain revival of industry and commerce, especially with the French. Latterly the stream of trade turned decisively towards Beirut.

Tyre now presents but a wretched appearance, huddled together on the site of the ancient island city. There is no trade or industry of note. Its 6,500 inhabitants eke out a slender livelihood by fishing, cultivating the plain and supplying the needs of travellers along the shore.

Sidon is about twice the size of Tyre, with better and more spacious houses. Fishing occupies some. A certain amount of trade is done by small vessels. The gardens and orchards in the plain are of wide extent, and great fruitfulness. Oranges are the main article of export.

The tombs of the ancients along the feet of the hill have yielded many things of intense interest—e.g., the tomb of Tabnit; the sarcophagus of Eshmunasar, now in the Louvre; and the beautiful sarcophagus, now in Constantinople, with sculptures of Alexander the Great.

The snow-capped peaks of Lebanon, still radiant in the dawn and glorious in the setting sun, witnessed the pomp and splendour of the far-off days, the mighty strongholds with their teeming populations, the bosom of the blue flecked with the white-winged messengers of commerce bearing to the world's ends the brave merchant pioneers who returned with the wealth of all lands to enrich and beautify their homes. Now these same hoary summits look down upon what is but a backwater in the stream of life where nature tries to hide with her luxuriance the crumbled ruins of a splendid past.

The Master Builders. IX.

The Glory of the Greek and Roman Theatre

By Professor E. A. Gardner, Litt.D.

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EVERY considerable town in ancient Greece had its theatre which was a public building constructed and kept up by the state. The performances which took place in these theatres were also organized by the state and were a part of established religious ceremony. Both theatres and dramatic performances conformed to the type which was first established at Athens in the sixth and fifth centuries B.C. and continued with slight variations throughout the classical period. The character of the building and of the performances which took place in it was therefore more or less stereotyped, and in order to understand this it is necessary to bear in mind the conditions that distinguished the ancient from the modern theatre.

In the first place, the Greek theatre was in the open air and staged upon what seems to us a gigantic scale. Plays were only performed once, and therefore it was necessary to find room at that one performance for all who wished to attend it—that is to say, in Athens accommodation must be provided for practically the whole body of citizens. The great theatre of Dionysos is said to have held 30,000 spectators, and though this may be an exaggeration, it has been estimated that some

extant theatres could have accommodated no less than 16,000 to 20,000 people.

Plays were performed at Athens as a part of certain popular religious festivals in honour of the god Dionysos (Bacchus). The chief of these were the Great Dionysia held about the end of March, and the Lenaia held about the end of January. At both alike the performances of plays

were continuous and lasted for several days. Tragedies and comedies were performed at both festivals, but tragedies were the leading feature at the Great Dionysia and comedies at the Lenaia. The performances took the form of a competition. In the case of tragedy, three poets were selected who each produced a series of three tragedies and a satyric play. Comedies were usually produced singly, but here also there was a competition between three or later between five poets. To be selected to compete was in itself a high honour, and the victor received a prize which he usually dedicated to the god. The most successful actor also received a prize, independently of whether the plays in which he acted had been successful or unsuccessful.

It is evident that such a system as this implies a complicated and accepted organization. If a



MASKED MUMMER OF ANCIENT GREECE

Ancient Greek comedy is arbitrarily classed in three stages: first, political satire (Old); second, burlesque of literature and philosophy in a period of political depression (Middle); lastly, the forerunner of the modern Comedy of Manners (New). This last had certain stock characters one of which is shown in this ancient statue; the lips of the actor are seen behind his grotesque mask.



THEATRE OF DIONYSOS AT ATHENS, WHERE AISCHYLOS, SOPHOKLES, EURIPIDES AND ARISTOPHANES HELD THEIR "PREMIERES"

Lying to the south-west of the Parthenon-crowned Acropolis is the ancient theatre of the old wine god of Greece, patron of the mine. Once the centre of the great dramatic art of Greece, its situation was actually within the temple precincts; this stone building superseded previous wooden erections and was completed about 340 B.C. in the time of Lykourgos, although the permanent proscenium of which the ruins are seen on the left was not added until some later period. Girdling the semicircular orchestra, formerly occupied in the centre by the thymele (altar of Dionysos), are seen the tiers of spectators' seats all of white limestone except the lowest, carved in distinction from Pentelic marble, which was occupied as in the Roman amphitheatres by distinguished personages and priests of whom the most important was the Priest of Dionysos.



IN THE CRYSTAL ATMOSPHERE OF ATHENS THE ACTORS' VOICES CARRIED CLEARLY FROM STAGE TO TOPMOST TIER

Since its first erection as a permanent stone building the theatre of Dionysos at Athens has undergone many changes to suit the ever changing progress of the drama, of these the most important is the reduction of the space allotted to the chorus from a large circle to rather more than a semi-circle. Greek drama was at first entirely in the hands of the chorus but as it evolved the functions of the chorus became more and more restricted and those of the actual actors emerged in greater importance. The latest additions and changes were made in the theatre of Athens in the Roman time when the stage was reconstructed on a lower platform a monument of Hadrian's period may be seen in page 986

Fig. 1 by MacGillivray



AT ATHENS CROUCHING SILENUS BEARS THE WEIGHT OF THE STAGE ON HIS SHOULDERS

With grass tufts growing in the interstices of the pavement, the orchestra, in which the chorus performed, lies in front of the raised "logeion" or stage proper dedicated to the use of the actors only. The face of this well preserved logeion is adorned with relief, that depicts mythical scenes in the life of Dionysus (Bacchus), the patron god of the drama in Greece who is himself seated on the extreme right. All the reliefs on this the right side (the left side of the stage is wanting) date from later Greek times and were shifted to their present position about 200 A.D.

poet wished to produce a play or a set of plays, he had first to apply to the magistrate to be put on the list of competitors. If he was selected, a "choragos" was assigned to him, that is to say, a rich man who undertook, as a public service, to pay the expense of training the chorus and of dresses, properties, etc. Later, these expenses were provided by the state. The poet himself trained the actors and chorus and supervised the production of the play. Only three actors took part in each play, and the distribution of the parts and entrances and exits of the characters had to be arranged accordingly. Moreover, the same three actors had to appear in a whole set of plays by one author, or, by a later arrangement, in one of the plays of each of three poets.

The reaction of these conditions on the nature of the performances, and on the theatre in which they took place, must have been considerable, and they must be borne in mind in any attempt to realize what the ancient drama was like, especially on the part of those who are habituated to the modern theatre.

The Greek theatre consisted of three essential parts: the orchestra, or dancing place for the chorus, the "theatre" in the narrower sense, that is to say, the accommodation for the audience, and the skene or scena (originally "booth")—dressing rooms and green room for the actors—the front of it serving as a background before which they appeared. The three must now be described in greater detail.

The orchestra was originally a flat circular space surrounded by a low wall or sill. Probably it was often the local threshing floor, such as is still used in Greece for festival dances. At Athens the remains of the circular retaining wall of the early orchestra are still to be seen below the stage buildings of the great theatre, and at Epidauros the complete circular sill of white limestone surrounding the orchestra is still perfectly preserved. In such a circular space choruses used to dance before dramatic performances were associated with the dances. It is said that these originated in one man, who probably impersonated the god or hero who was celebrated, mounting on a table or platform and interchanging dialogue with the members of the chorus. As the importance of the actors increased, and that of the chorus diminished, the quarters assigned to the former encroached more and more on the orchestra, so that in later theatres the latter is no longer of circular shape. According to the prescription of Vitruvius, the great Roman architect who lived in the first century B.C., the orchestra in the Greek theatre should be limited, on the side towards the stage building, by one side of a square

inscribed in the circle, while in the Roman theatre the orchestra became semi-circular. The orchestra was not usually paved until later times, but consisted merely of levelled and beaten earth. The "thymele" or altar of Dionysos was placed either in the centre of it or on its border, opposite the stage building.

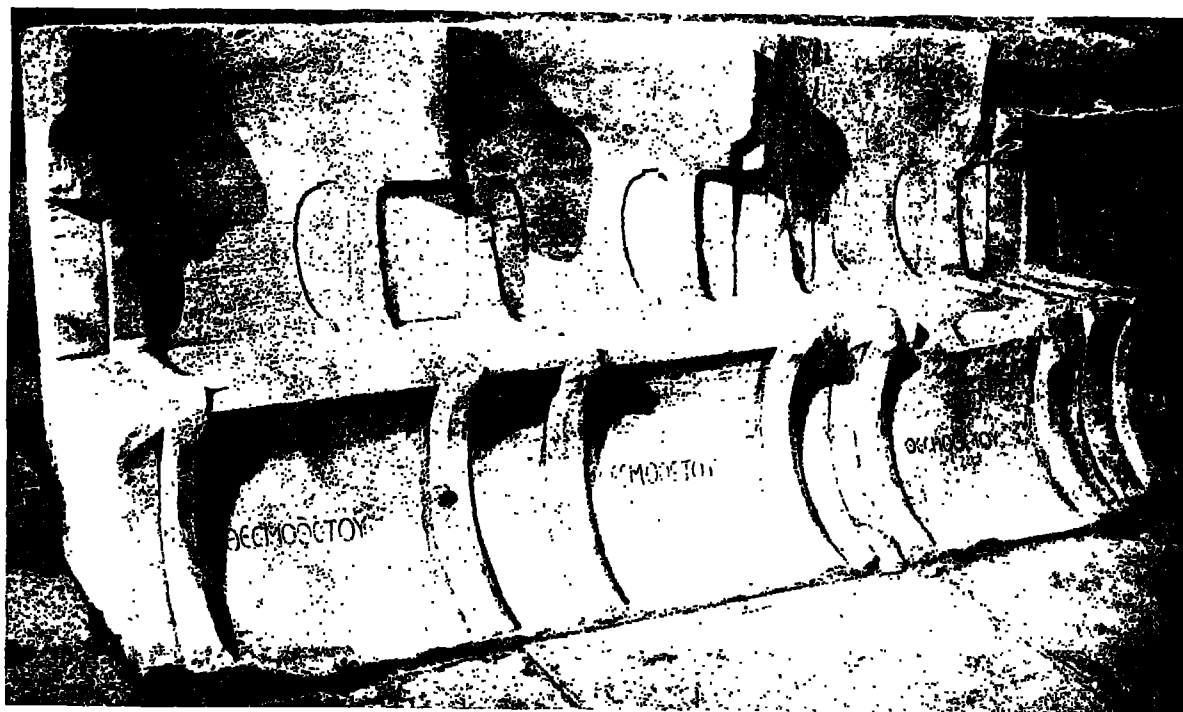
The seats for the audience were placed on the side of the orchestra away from the stage buildings, the bottom row of seats bordering the circle of the orchestra for half or more than half of its circumference. The middle portion of the auditorium was, as a rule, adapted to the natural slope of a hill, but it was usually necessary to extend this on either side



THRONE OF THE PRIEST OF DIONYSOS

Most magnificent of the special front row seats in the Athenian theatre was that occupied by the priest of Dionysos, patron god of the theatre, in whose honour the dramatic festivals known as the Lenaea and Great Dionysia were held, in January and March respectively. The relief, beautifully carved in Pentelic marble shows a winged Eros with fighting cocks.

Photo by Mesembrianstalt



FRONT ROW STALLS FOR THE PRIESTS

In every theatre and amphitheatre of Greek and Roman erection the first row of seats was reserved for the especial use of certain dignitaries. These were, in Greek theatres, priests, among whom the priest of Dionysos was foremost having a special stall for his own particular use; the magistrates, distinguished foreigners, and citizens worthy of special honour. This photograph illustrates four stalls in the theatre of Dionysos at Athens specially reserved for the use of magistrates and inscribed accordingly.



SEATS OF MARBLE FOR THE FAVOURED FEW IN THE THEATRE OF DIONYSOS

In the previous page is a photograph showing the sculptured detail of the stall of the priest of Dionysos, seen in the centre of the middle block in this illustration. Its relative position may thus be judged. At both sides of it are seen the stalls of priests of other orders, to the extreme left we read from the inscription on the seat that it was sacred to the priest of Delian Apollo. Its neighbour to a hierophant (a certain priestly official) the one on the extreme right, next the gangway was the property of a priest whose duty was to perform sacrifices or pour libations, all are of Pentelic marble. Remains of Roman date are seen above the priests' seats

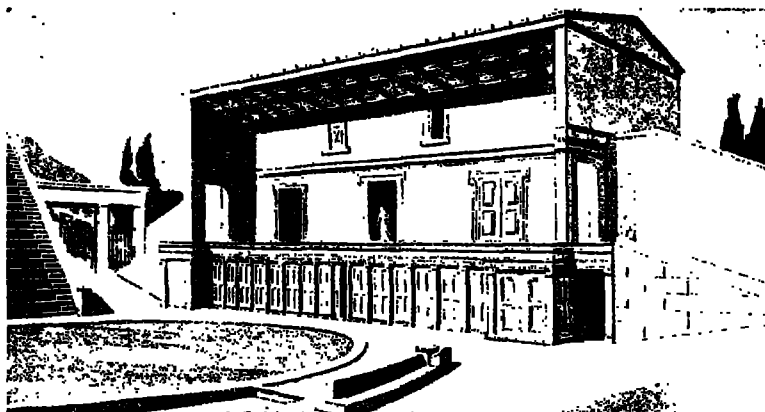
Photo by Maxted Bennett

with the help of retaining walls and substructures. The whole area usually in Greek theatres occupied more than a semicircle; in Roman theatres a semicircle exactly. And the extension of each end of the semicircle was carried out by various devices. The simplest of these, as used at Athens and elsewhere, was to prolong the circumference of the semicircle by tangents. Sometimes the circumference of the original circle was followed in the extension. Further and more involved mathematical refinements were also used to prolong the curves. The effect of these arrangements was to turn the spectators on the two wings of the auditorium slightly away from the centre of the orchestra and more towards the stage buildings in front of which the action took place. Acoustic considerations were also probably taken into account, as throughout the rest of the design.

The seats were divided by a series of steps into wedge-shaped sections and also by horizontal gangways into two or more divisions; in some cases there were twice as many sets of steps above such a gangway as below it. The lower sets of steps varied in number according to the size of the theatre. They were usually even in number so

as to leave a central seat—at Athens for the priest of Dionysos—opposite to the stage. At Athens there were fourteen, at Epidauros thirteen such gangways, one staircase being in the centre of the auditorium; at Priene there were only six.

A prescription laid down by Vitruvius, and observed in some theatres, is that a line stretched



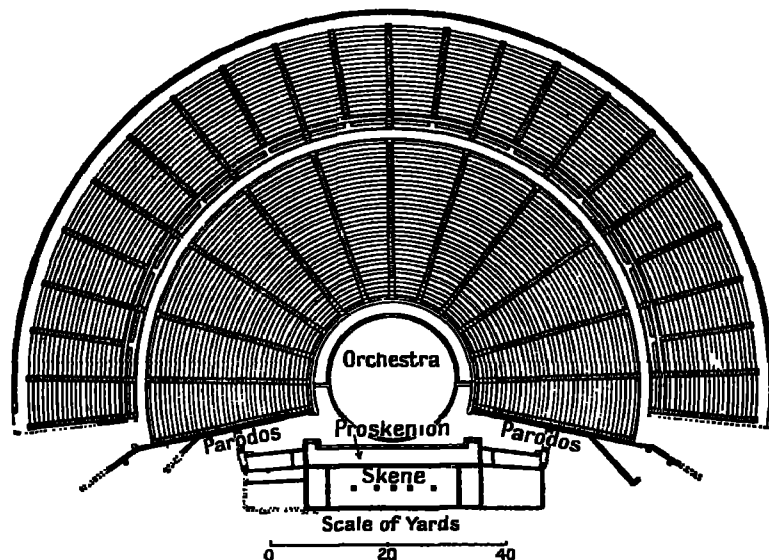
RESTORED PROSCENIUM OF EPIDAUROS

Of conventional type, the stage at Epidauros consisted of a building two storeys high; the logeion projected from the first floor and was supported by columns. Three doors gave on to the stage from the wall of the "skene" and entrances and exits were made by the sloping ways on either side.

After a reconstruction by Fuchstein

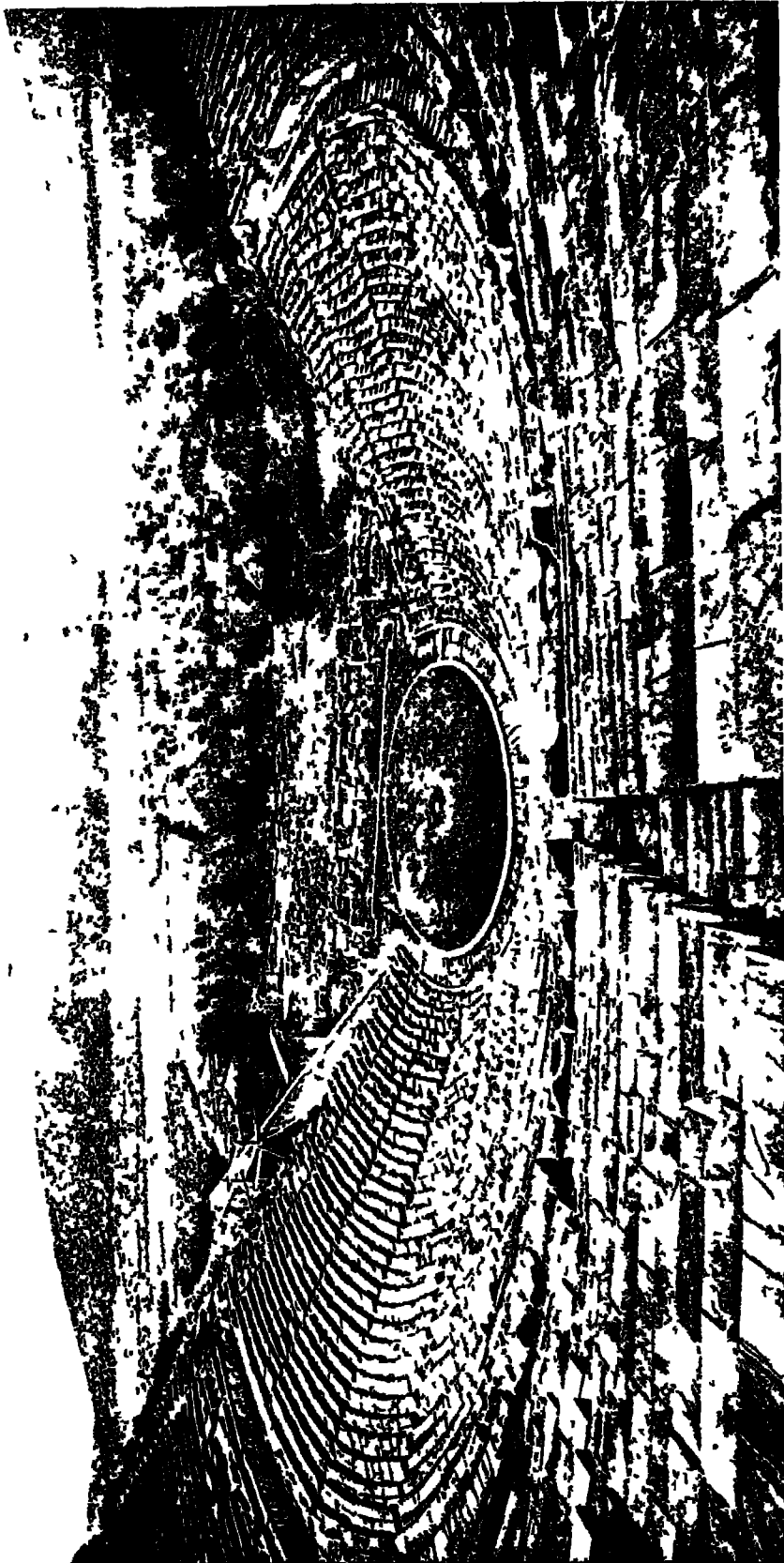
from the bottom to the top seat should just touch the front of every seat in the theatre. This was mainly for acoustic reasons in order that there should be no echo or projections to interfere with the even distribution of sound. At Epidauros the slope is a little steeper above the horizontal gangway than below it, so as to improve the view from the upper rows of seats; at the same time the acoustic properties of the theatre are in no way injured, as can still be ascertained by a practical test. Anyone speaking in an ordinary voice in the orchestra can be heard easily at any point in the auditorium, which was large enough to accommodate some 16,000 spectators.

The seats usually consist of blocks of stone divided on their upper surface into a space for a seat and a space for the feet of the spectator in the next row behind. At Athens there are also grooves on the seats, which appear to define the space assigned to each individual spectator. But as these are only thirteen inches apart, it cannot have been easy to insist on their observance. In



PLAN OF THE THEATRE OF EPIDAUROS

At Epidauros alone is found the original fully circular orchestra which gave room for a large chorus. Rather more than semicircular is the "theatron" (auditorium), and it is divided by flights of steps into blocks of seats. The "skene" consisted of dressing rooms and stores; on either side the chorus entered by the passages marked "parados"; the "proskenion" was the actual stage.



BUILT TO ACCOMMODATE AT LEAST 16,000 PEOPLE THE THEATRE OF EPIDAUROS

Even to this day the theatre of Epidauros merits the praise which Pausanias gave it in ancient times, as being the most beautiful in Greece. As we may remark, there almost every seat remains in situ and it is only on the wings where the supporting walls have fallen that the otherwise perfect symmetry is broken, now repairs are being carried out on these walls and the seats restored. Only the foundations of the stage buildings remain, but one can observe on the left the columns of a parados which are still standing. How skilfully the ancient builders tackled the problem of acoustics is well evinced by the fact that a person speaking in an ordinary tone from the stage can be heard perfectly in all parts of the auditorium.

Photo by Messbildtr-611



TIER UPON TIER ONCE FILLED WITH A GAY CROWD OF EPIDAUURIANS

In the Hieron of Epidauros, most renowned seat of the cult of Asklepios, god of healing, stands the theatre, a perfect example of the early type. Built by Polykleitos in the fourth century B.C., its main plan remained unaltered through the Roman period. A broad "diakoma" (passage) divides the auditorium which has three rows of special seats, two adjoining the passage and one next the orchestra; below are twelve divisions of seats, above are twenty-two; in the foreground are the ends of the two "parodoi"

many theatres there are also stone or marble benches with arms in the front row; at Athens there are marble thrones, the central one, that of the priest of Dionysos, being beautifully carved with bas-reliefs.

The third essential part of the theatre, the stage building, has been a matter of controversy. The difficulty lies in the fact that, while there is plenty of architectural evidence as to what these buildings were like in later Greek times, all extant Greek plays were written during a period from which nothing but foundations have survived, and these are open to varying interpretations. It seems best therefore to begin with a description of the later Greek stage buildings. These consisted of an oblong building, two or more storeys high and divided into rooms for the accommodation of actors and properties. The first floor of this building was usually about 10 to 12 feet above the orchestra level and in front of it was a platform of the same height, usually approached by three doors in the front of the main building. This was the stage upon which the actors appeared. It was usually supported by low columns and the wall at its back, with the three doors, was usually given an elaborate architectural ornamentation, with columns and other decoration suitable to the front of such a palace as usually formed the background of a Greek tragedy. The three doors were assigned

to actors entering from the palace or adjacent buildings. There were also entrances at each side—that on the right of the spectators assigned by Athenian convention to actors coming from the city or harbour; that on their left to those coming from a distance inland. These entrances were variously arranged in different theatres. In one type there were projecting wings enclosing the stage at each end and side doors in these were regarded as leading in from the outside. In another, the stage platform was continued at each end by a long slope leading down to the ground level; in a third, this platform was continued round the sides and even, at Delos, the back of the stage building. In these last two cases a more or less realistic dramatic effect was gained, since the audience could see a new actor approaching before he reached the stage or became visible to those upon it. The length of the stage was usually slightly greater than the diameter of the orchestra, which varied in large theatres from about 80 to 100 feet; its depth was only about 10 feet, and these proportions, together with the height of the stage (10 to 12 feet), have led some authorities to dispute whether the actors appeared upon it rather than in front of it. But the evidence that they did so in later Greek times is overwhelming.

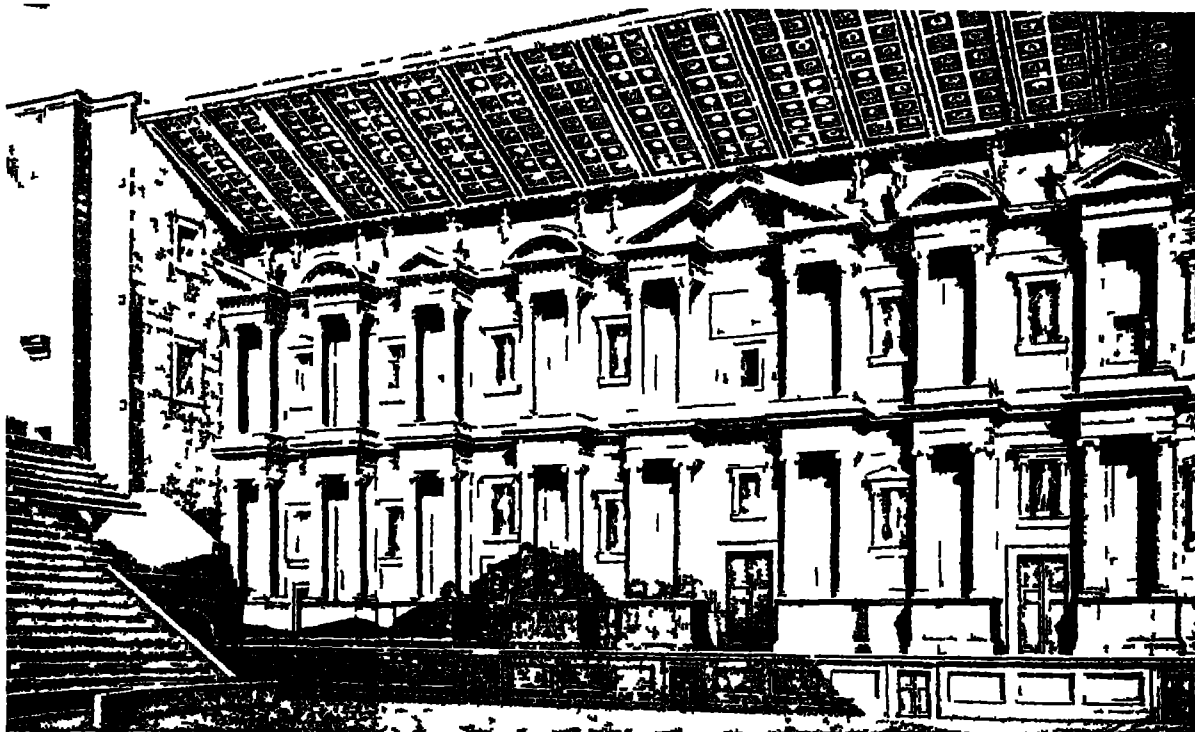
It must, however, be remembered that no stage edifice built of stone and therefore surviving to



PRIENES THEATRE IN THE SHADOW OF THE ACROPOLIS OF MYCALE

At the foot of Mount Mycale where the Pan Ionian festivals were held are the ruins of Priene, one of the twelve cities of the Ionian league. Conspicuous among its remains is the Greek theatre, one of the best of its kind. A noteworthy feature of the building is its high "logeion" with its colonnade of Ionic pillars. The city also had among its great buildings a temple dedicated to Athene Polia, designed by the celebrated Lydians whose genius also evolved the Mausoleum of Halicarnassus.

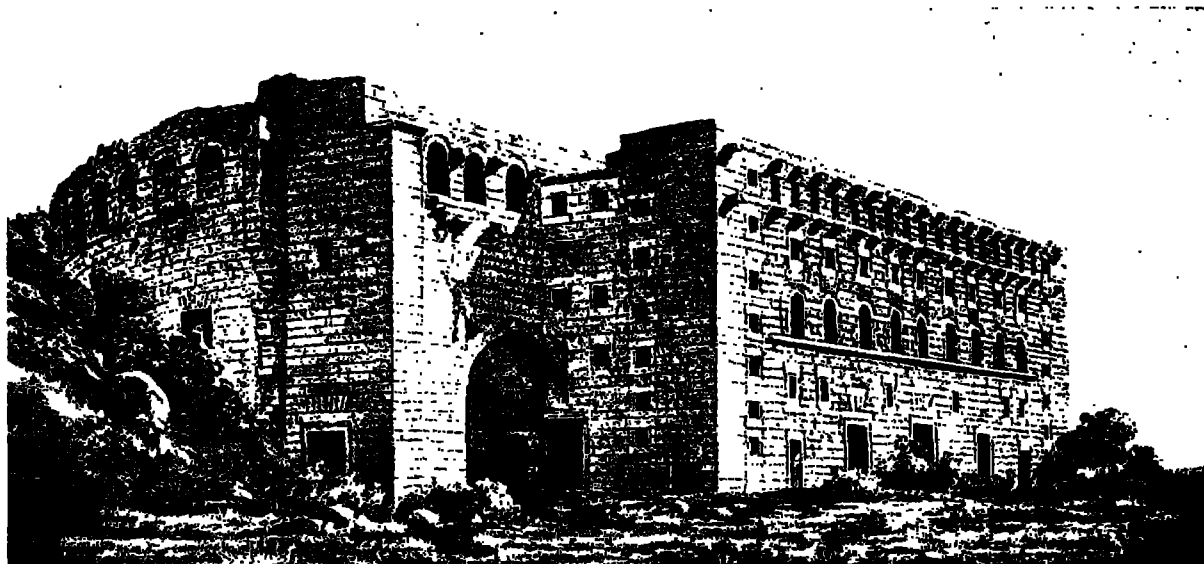
Photo by Weigand



TROD BY THE COTHURNUS-SHOED TRAGEDIAN THE STAGE AT ASPENDOS

Among the finest of all the great theatres raised by the Romans is that of Aspendos in the ancient province of Pamphylia, an old town whose origins are lost in the fog of pre-Hellenic antiquity. The building differs from the Greek erections in that in its construction the architects have not relied altogether on a natural concavity of the ground for supporting the seats of the cavea, these being built on arches. Many statues adorned the proscenium and columns Ionic and Corinthian support heavy entablatures and pediments.

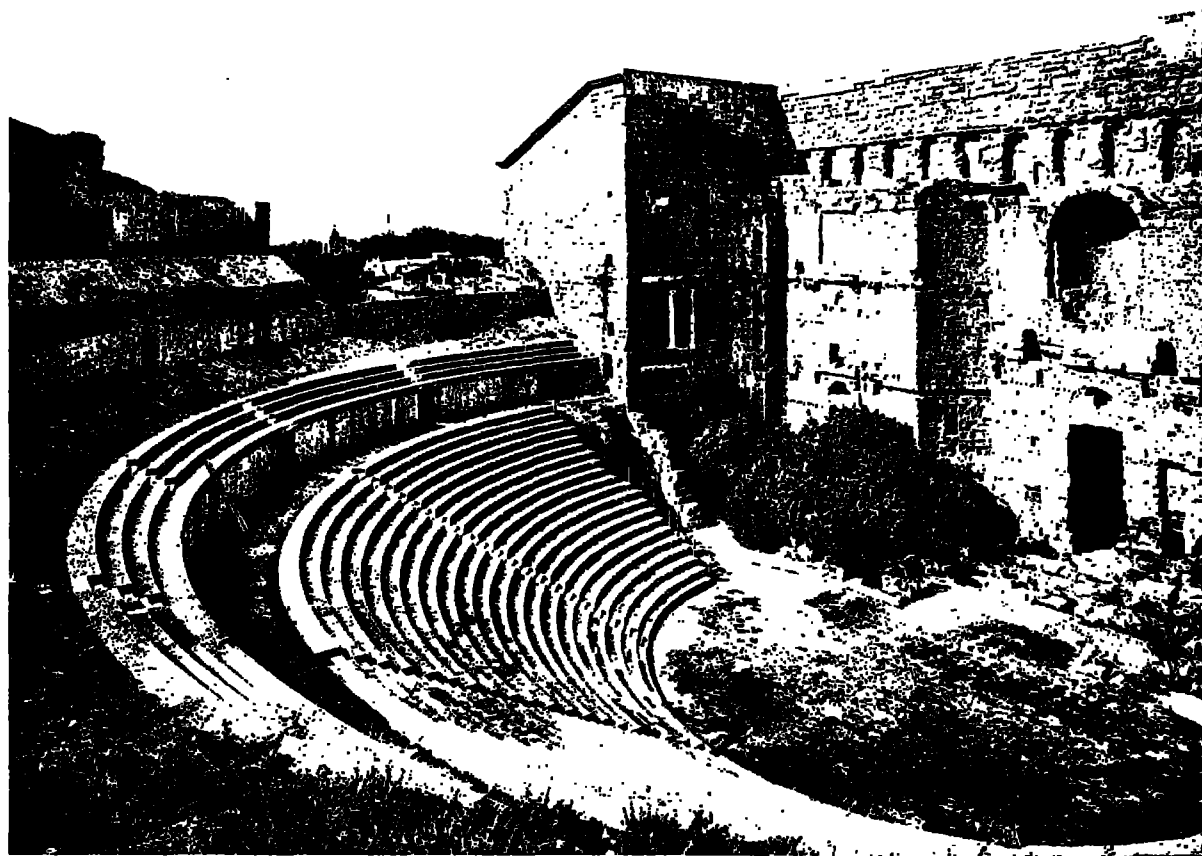
After a reconstruction by Niemann



EXTERIOR FACADE OF THE ROMAN THEATRE OF ASPENDOS

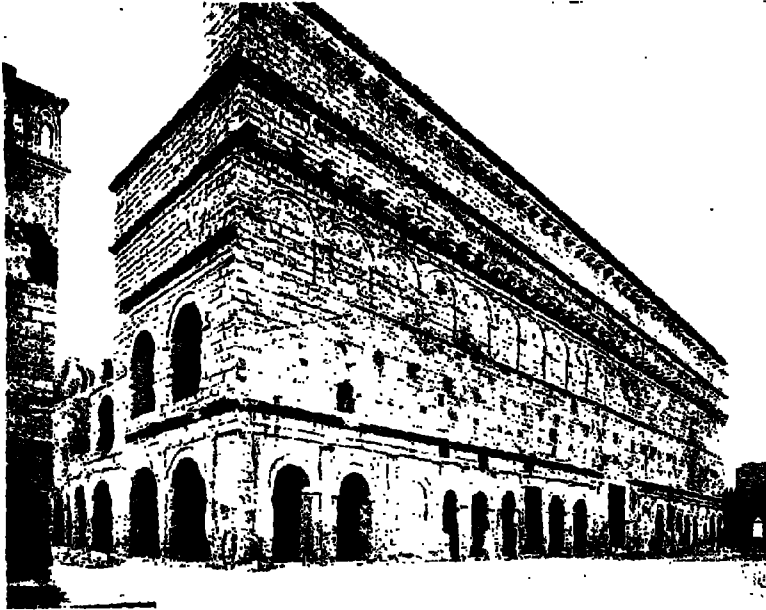
Of plain style and very similar to the exterior of the theatre of Orange is the back of the scena at Aspendos in Asia Minor. Wide arched public entrances are found at either side of the stage buildings; green room, dressing rooms and stores for properties are illuminated by many windows—a conspicuous row of arched ones is seen on the first floor. Let into the higher courses are projecting supports to which the masts were fixed which supported the ropes of the awnings.

Photo from "Skizze Pamphyliens und Pisidiens," by Lauckorowski

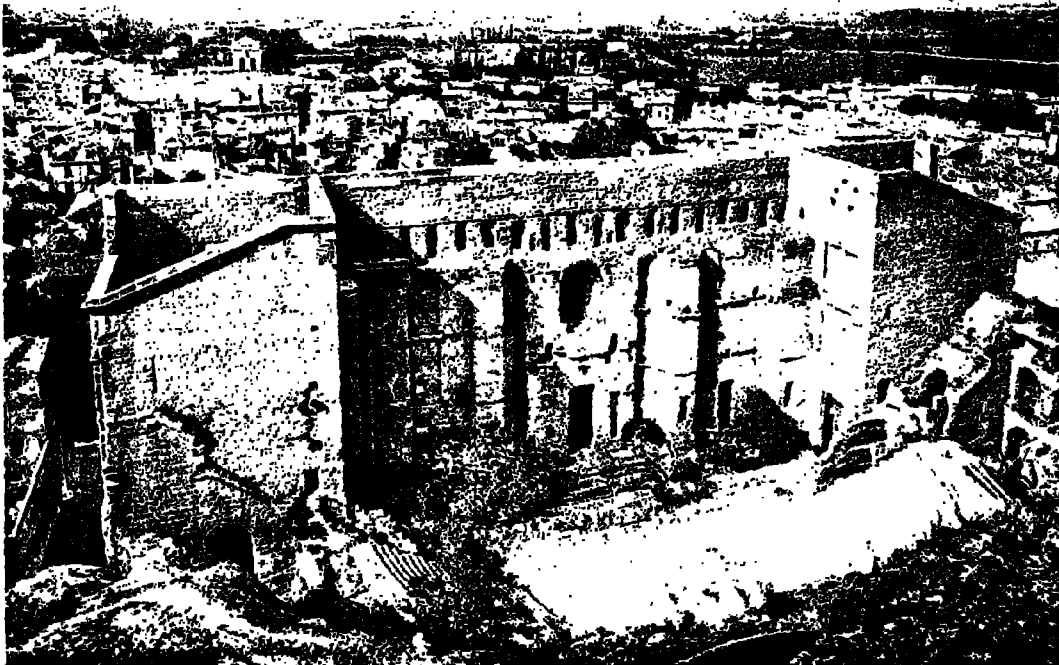


WHERE THEATRE-GOING ROMANS IN SOUTHERN GAUL FLOCKED TO SEE COMEDIES

Colossal in size and richly ornate, the scena of the theatre of Orange (ancient Arausio) dominates the whole of the town. It is abundantly evident from this photograph to what large extent the Romans were indebted to ancient Greece in the planning of their theatres; for here we have the great wall of the scena pierced by three doors and on either side the doors through which the actors made their entrances and their exits. The seats of the auditorium were restored in 1894 and the building is now occasionally used for open-air plays.



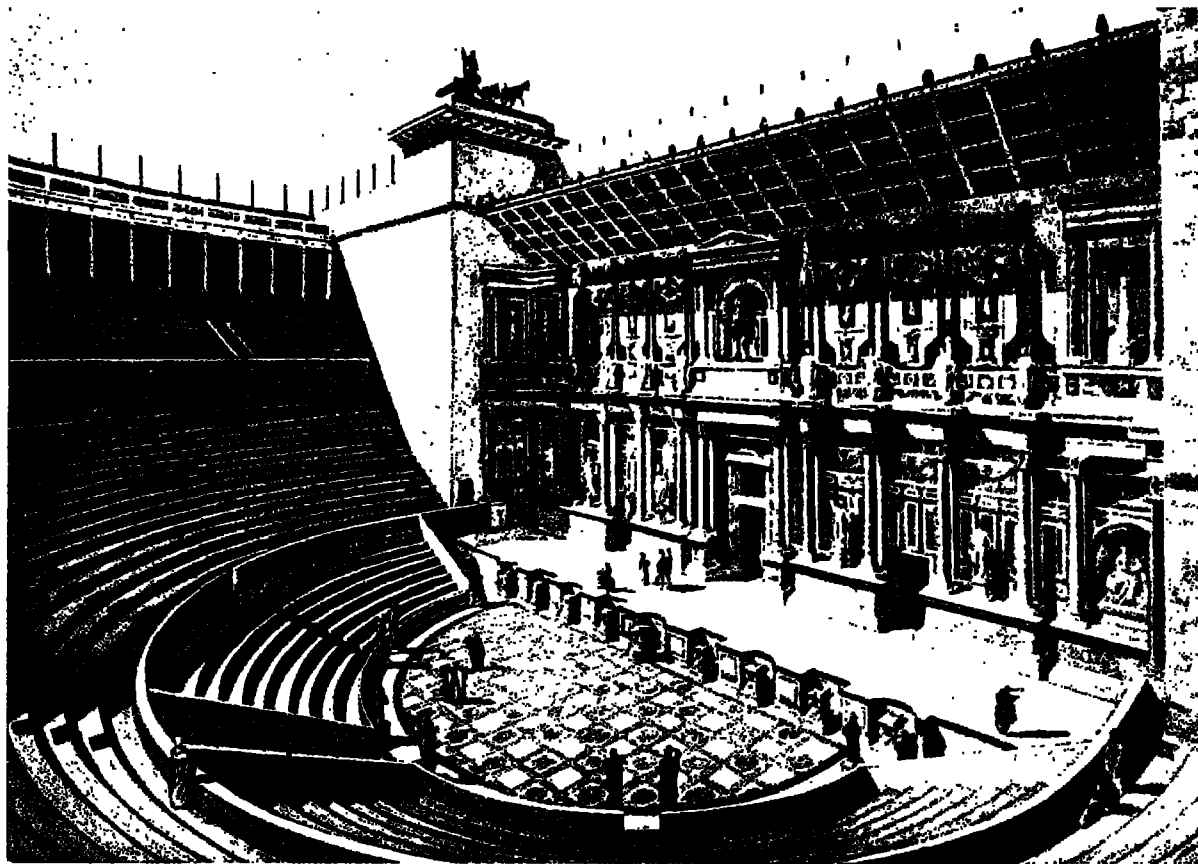
our day, can be dated earlier than the fourth or possibly even the third century B.C. Before this there existed in several theatres wooden stage buildings of which the stone foundations and sockets have been found; but it is impossible to say whether these were of the same form as the stone buildings which succeeded them. In any case they do not offer satisfactory data concerning the fifth century period during which all the extant Greek plays were written. It has been pointed out that these plays imply a close relation and even a possibility of contact



THEATRE OF ORANGE, GREATEST OF ITS KIND IN FRANCE

Built below a hill on which stands a mighty statue of the Virgin, the Roman theatre of Orange yields place to no other such building in France of the Roman period in point of size and beauty. Its façade which appears in the upper photograph is 120 feet high and 340 feet long; that its structure is of the most massive nature is clear from the illustrations, yet one is surprised that the wall of the façade should be 13 feet thick. Of the tiers of seats in the interior only the lower rows remain, but careful watch is now kept against any further detrition.

Lower photo from "Baupunkt des Altertums," by Nessel



THE MAGNIFICENT THEATRE OF ROME'S SHIPPING COMMUNITY

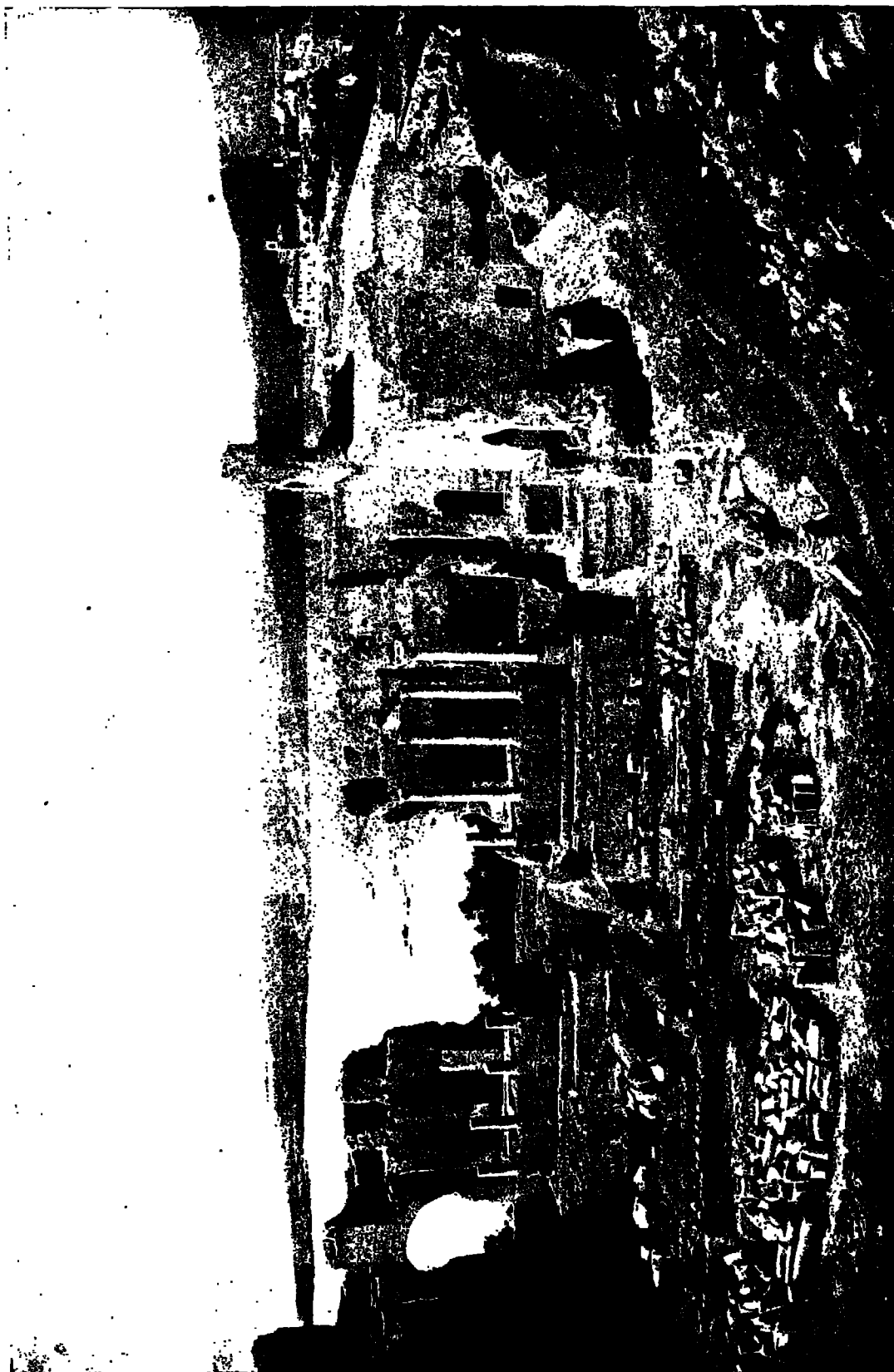
In the article on Ostia in pages 680 to 696 will be found several photographs of the theatre of Ostia as it is now; what it once was like may be well judged from this restoration. A rich proscenium with statues and columns formed here the background for such plays as Plautus' "Boastful Captain" and Terence's "Self Tormentor." From the mosaic paved orchestra rose the auditorium in two main divisions. Note the masts above for awnings when the sun was hot.

After a reconstruction in "Architektonische Einzelheiten," by D'Espouy-Joseph

between actors and chorus, such as would hardly be possible with a stage 12 feet high; but on the other hand a lower stage would offer a transitional form between such a stage and the table on which the primitive actor is said to have mounted to interchange dialogue with the chorus. In any case the front of a palace, such as is implied as a background in many extant plays, would probably be raised, on steps or otherwise, above the surface of the orchestra, and so offer a vantage ground for the actors; and some such arrangement has been found convenient in almost all modern attempts to reproduce Greek plays with some approach to the ancient conditions.

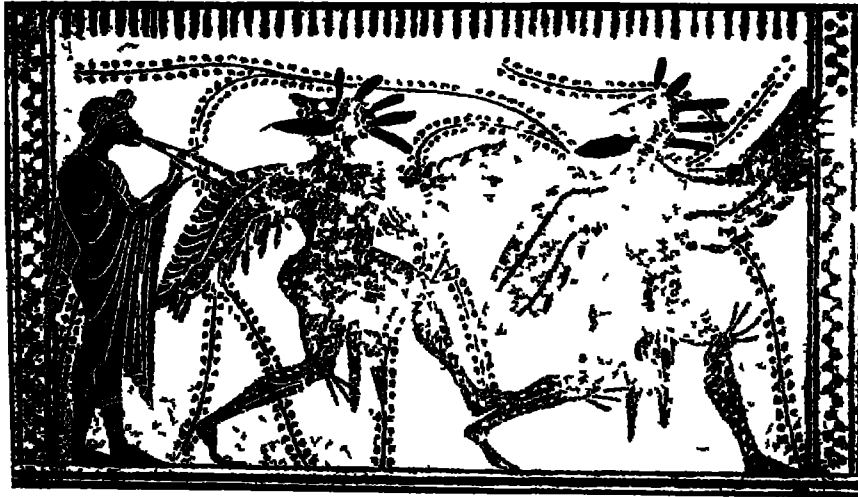
As to the scenery and properties used in Greek dramatic performances, we have a considerable amount of information. Here the conditions and conventions of the modern stage are misleading for the reasons already stated. Since several plays were produced in succession on a single day, it was impossible to set up new and elaborate

scenery for each one, especially because there was no curtain to screen such preparations from the audience. The architectural front given to the stage building in later times doubtless served as a background to most plays, with the help of certain devices which we must later consider. But when the building was only wooden or temporary, the aid of scene painting was called in. Agatharkos and Apollodoros, two of the most famous painters of their time, were employed to paint scenery for the plays of Aischylos and Sophokles, and it seems probable that they devoted special study to architectural perspective. Thus they would be able to suggest, on a flat canvas or wooden screen, the colonnaded front of a palace, the usual tragic scene. For comedies what was usually required was an indication of houses, with "practicable" doors, windows and roofs, and for satyric plays—one of which was attached to each set of three tragedies—a rocky or woodland scene. These must all, in earlier times at least, have been of a very simple and conventional



A SHINING GEM IN AN EXQUISITE SETTING: RUINS OF THE THEATRE OF TAORMINA

It strikes one as peculiarly fitting that Sicily, that little Mediterranean island whose part in the origin of the drama was such an important one, should possess the most wonderfully situated relic of the ancient theatre—a mere glance at this photograph suffices to reveal the peerless, commanding position and the beautiful surroundings of the ancient building. The well preserved ruins of stage buildings and colonnaded proscenium which we see here are Roman, though they were but a restoration of a still more ancient theatre dating to the days when the island was the undisputed terrain of the colonists of Greece. Formerly there were forty-five of these fine Corinthian columns, and the niches of the proscenium held statues. In the background is Mount Etna.



FEATHER-DIGHT CHORUS IN THE 'BIRD DANCE

In the British Museum is a vase on which are portrayed figures of the chorus attired as birds wearing feather covered skins and bearing wings on their arms. They serve to illustrate the costumes employed in such a play as the *Birds* of Aristophanes though the vase dates to seventy years before the play was written.

By permission of the Society for the Promotion of Hellenic Studies

character, since no lighting effects were possible and no aerial perspective was attempted. They must too, have either remained as set through a whole series of plays or have been such as could easily be placed in position in sight of the audience.

This simple scenery was supplemented by various devices which made no attempt at illusion but were accepted as conventions. Thus at each end of the scene were triangular revolving prisms with different objects painted on their three sides, and by turning these a change of scene was understood. If it was desired to show an interior scene, there was a kind of circular platform which could be turned round so that what was on its back part was revealed to the audience. Then there was a balcony the 'theologeion,' on which the gods could appear. Sometimes they were suspended in the air by the 'machine,' a sort of crane. An altar was necessary in some plays, and this may have been identical with the altar of Dionysos.

The dress of the actors was also conventional, both

in tragedy and in comedy. Masks appropriate to the various parts were worn over the head and these added to the apparent stature which was also, in tragedy increased by high solid boots. richly decorated robes were in accordance with the sumptuous setting of the whole. In such conditions, which were also suitable to the great size of the theatre it is evident that there was no scope for play of features or for rapid action, and that impressive declamation with slow and stately gesture was necessary, at least in tragedy.

The Roman theatre was essentially of the same

character as the Greek. The main differences were as follows: the auditorium was usually built up entirely on supporting walls and arches, instead of using a natural slope for this purpose; the orchestra was semicircular and the entrances to it at each side between auditorium and stage, were arched over and not open as in the Greek



DASHING CAVALIERS OF THE GREEK COMEDY

Mounted on horses, to our sophisticated eyes rather suggestive of the steeds of Christmas pantomime, the knights of the chorus advance in time to the music of the flute: the attire of their bearers consists of skins with horses' heads and tails. Aristophanes' *'Knights'* may have been costumed thus though, as above, this vase (now in Berlin) is earlier in date.

Berlin Museum



EURIPIDES AT THE FEET OF DIONYSOS GIVES A CHARACTER TO THE STAGE

First heard of in boyhood as a cup-bearer to a band of Athenian dancers at the Thargelia, a festival of Delian Apollo and Artemis held in May, Euripides became in later life the greatest of all the Greek tragedians and such of his plays as "Iphigenia in Tauris" and "Orestes" have a greatness that is appreciable in all ages of the world and have inspired many works in Italian, French and English.

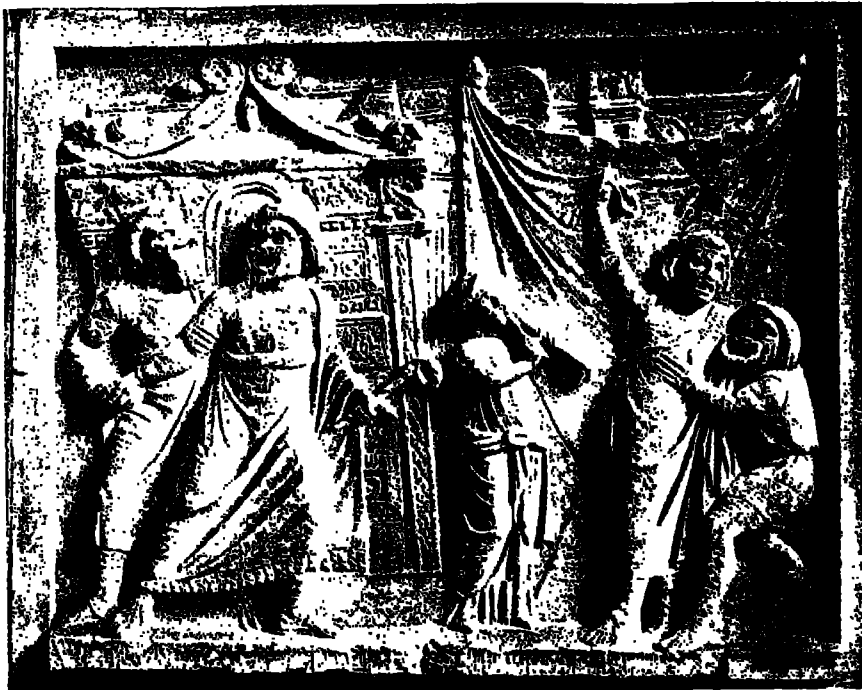
Constantinople Museum

theatre. Since the orchestra was no longer required for the evolutions of the chorus, seats

were placed in it for distinguished spectators; and, as a natural consequence, the stage was

reduced to less than 5 feet high. The depth of the Roman stage was much greater than that of the Greek, because all performers had to appear upon it. In many Roman theatres the stage building is well preserved, notably at Orange in France and at Aspendos in Asia Minor; it is of a height about equal to that of the auditorium and has rich architectural decoration.

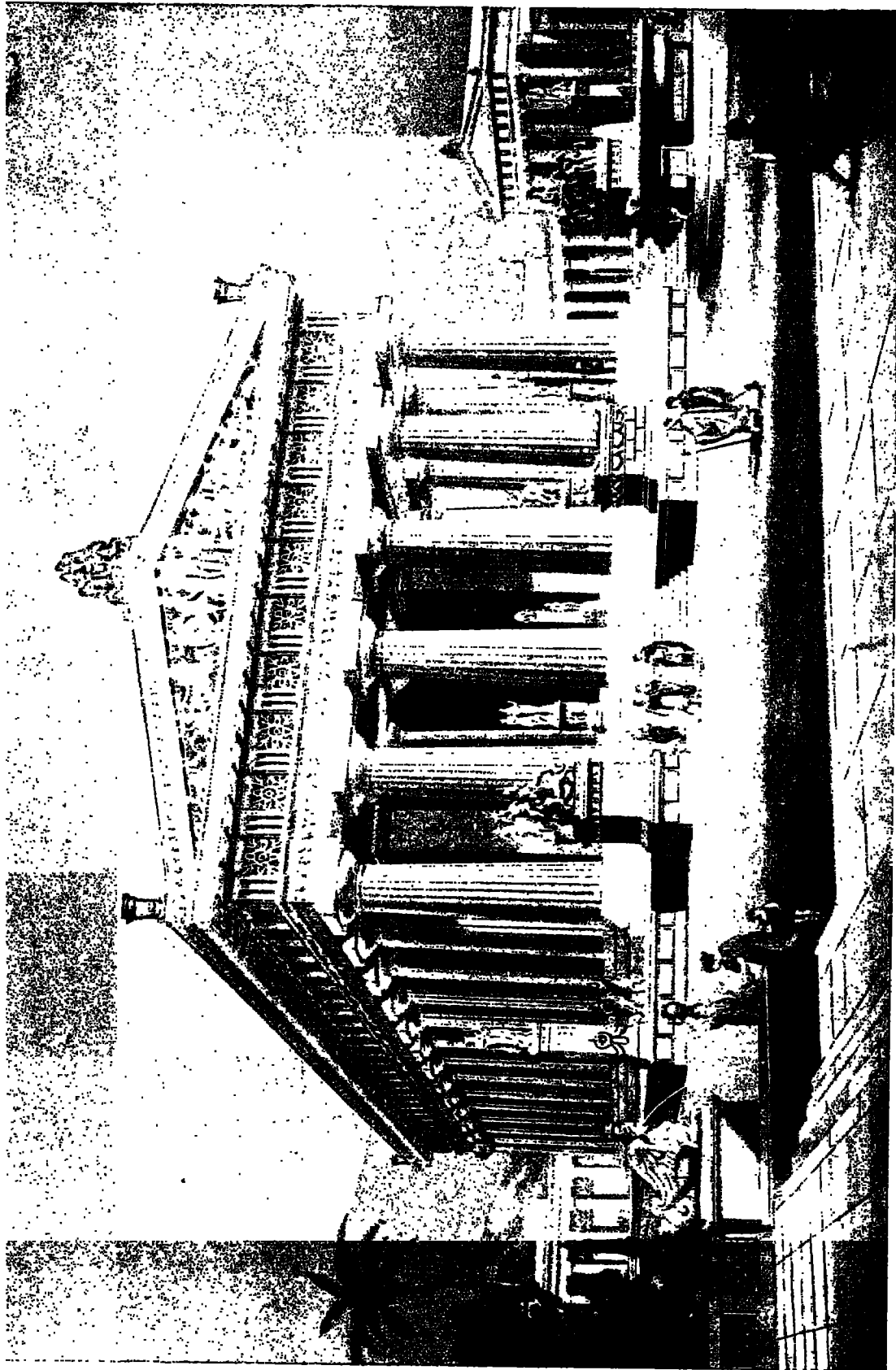
Alike in the Greek and in the Roman theatre porticoes were added, both at the back of the stage building and round the top of the auditorium, so as to offer shelter to the spectators in case of sudden storms; otherwise there was no protection against sun or rain except in the case of some Roman theatres which were provided with awnings.



THE ANGRY FATHER AND THE CRINGING SLAVE

Typical of a play of such an author as Menander or perhaps even of Plautus or Terence is this relief, now in Naples, depicting an episode in the action of one of the New Comedy plays. Strangely masked are these figures which may be putatively recognized as the servant with the "mistress" on the right and the parents on the left. In the centre a boy plays the pipes.

Photo by Allan



A PEERLESS SHRINE OF THE GREAT SEA GOD: POSEIDON'S TEMPLE AT PAESTUM

One of the noblest examples of Greek architecture and a centre of religious life in the Sclavonic colony of Paestum, this great Doric temple has an unquestionable beauty which makes it a formidable rival to the temple of Poseidon's divine rival, Athens Parthenon. Its thirty-six Doric columns rise 28 feet high and measure 4 feet in diameter at the base and 4 feet at the capital. In the interior of the cella stood two rows of seven columns to support the roof. Built throughout of travertine it was formerly entirely overlaid with white stucco on which polychrome decoration was lavished in brilliant blues and golds and reds. Glorious indeed was this temple in the days when Greek thought led the world.

After a reconstruction by Bülmann, specially coloured for "Wonders of the Past"

Temples of the Gods. XXI.

The Greek Temples of Paestum

By F. N. Pryce

Assistant Keeper, Department of Greek and Roman Antiquities, British Museum

SOUTH of Salerno the railway from Naples runs for miles through a monotonous coastal plain which not many years ago was a morass with muddy pools in which cattle wallowed, and tangled thickets where brigands made their lair. To-day the swamps are being drained and cultivation is steadily encroaching on the waste lands, but the district still has an evil name for malaria and houses are few and far between. The train stops at the wayside station of Pesto, outside of which there are some massive walls and a gate through which we pass. A few yards farther and we are in the centre of the enclosure, and there opens before us a scene of majestic beauty the like of which the world can no longer show.

A great pentagon nearly three miles in circuit, set in the desolate plain between the sea and the mountains, surrounded by the broken wall of some vanished city, overgrown with weeds, overrun by lizards; not a sound save the beat of the wave on the sandy shore a field's breadth away; not a human being in sight save perhaps a peasant far away ploughing with a yoke of oxen. And in the midst of this great desolation, alone with the sun, the wind and the sea, tower up the beautiful remains of three mighty temples.

The first temple we approach is also the finest and the best preserved; some writers have pronounced it the most imposing monument of Greek art that has been spared to us. At Girgenti in Sicily there is one temple in even more perfect preservation; at Athens the buildings are of more beautiful material and show a more refined sense of proportion; but this sombre mass impresses us with a sense of grandeur and power such as no other Greek building can produce. The heavy austere lines, the dull red colour, the ponderous entablature, the utter lack of decoration, recall to us not the sunny grace of Hellas but the sombre and mysterious shrines of ancient Egypt.

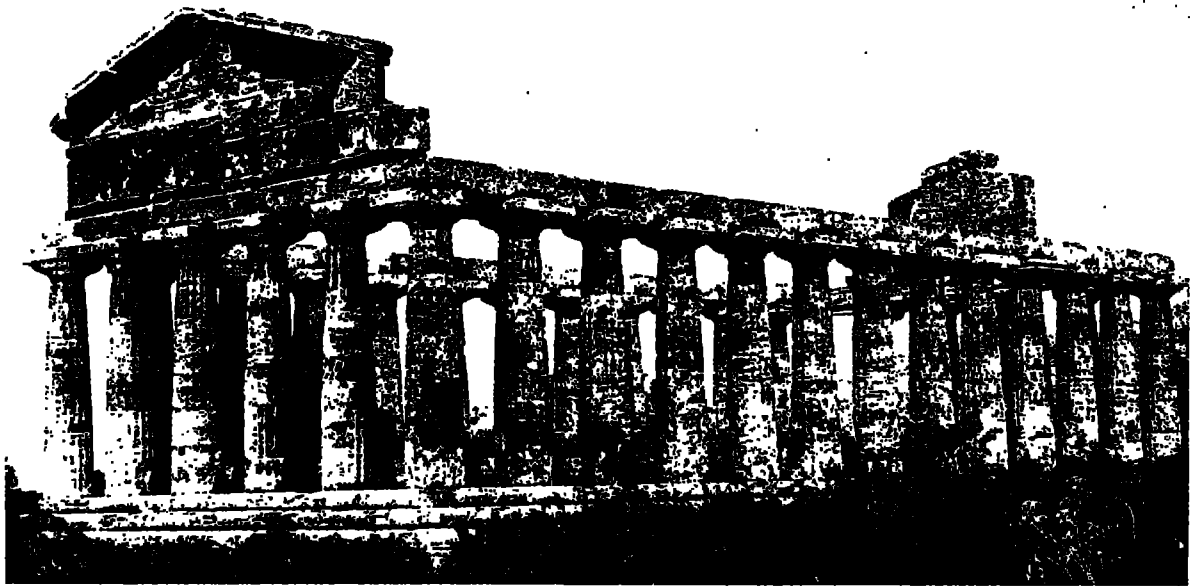
The temple, which is nearly 200 feet long, is of the Doric order; the fluted columns taper up from platform to architrave without base or figured capital. The external colonnade is complete, of thirty-six columns, each 20·8 feet high and over 6 feet in diameter at the base. The material is travertine, a kind of limestone,

which was originally covered with hard white stucco upon which polychrome decoration was laid, so that when new the temple appeared as a pile of snowy-white marble, relieved with blue and red and gold; but this covering has almost entirely disappeared, and the light-coloured limestone itself has been stained by centuries of rain and sun.

Internally, the building is less perfectly preserved: the roof has gone; the walls of the chamber are largely broken down; but the colonnades within the chamber still remain and above them may be seen the second row of columns which upheld the roof—an idea that later on developed into the clerestory of Gothic architecture. An examination of the proportions and details has led archaeologists to suggest that the temple was built about the middle of the fifth century B.C., a few years earlier than the Parthenon at Athens.

In front of the temple is the basis of an altar of sacrifice 33 feet long, on which the victims were immolated in honour of the deity whose statue stood in the shrine. Can we identify the god or goddess once worshipped in this mighty pile? Its situation facing the sea, its massive build, its suggestion of unfathomable mystery, would make it no unfitting home for the God of the Sea, Poseidon. We shall see presently that the city which once stood here was Poseidon's own city; is it fanciful to suppose that its grandest and largest building would be reserved for the sea god's own particular habitation?

The second temple stands but a few yards away from the temple of Poseidon and to a certain extent suffers in effect from the proximity as it is less well preserved and less imposing in style. Its breadth, 80 feet, is about that of the largest temple, but it is considerably shorter and its columns measure only 21 feet in height by 4½ feet in lower diameter. The outer colonnade of fifty columns is complete, but only the architrave beams remain in position above them, and the interior has also suffered, only three shafts of the internal colonnade being now left. There are certain peculiarities to be observed about this building: on the short sides it has nine columns, whereas the normal Greek temple shows an even number—four, six, or eight.



TEMPLE OF CERES, SMALLEST BUT NOT LEAST BEAUTIFUL SHRINE AT PAESTUM

In glorious isolation, north of the Temple of Poseidon and beyond the Roman amphitheatre, stands this remarkable ruin. Like the great shrine of the sea god this temple also has six columns at each end, but with only thirteen flanking columns. Each column is 4 feet in diameter at the base and about 2½ at the top, the tapering being thus very pronounced. The capitals are broad and flat and resemble those of the "Basilica" but are somewhat different in details of execution. Being only 105 feet long by 45 wide, the so-called "Temple of Ceres" is a comparatively small ruin, for the Temple of Poseidon measures 197 feet by 80.

Also, the columns of the interior, instead of being ranged round the sides of the chamber, run in one rank up the centre, which makes it impossible that a temple statue of a deity could have stood in the usual place. In view of these facts, older writers assumed that the building was not a temple at all, but was used for some secular purpose, perhaps as a law court or Basilica, and this name will still be found in the guide-books.

But the edifice certainly was a temple, for excavation in front of it a few years ago laid bare the foundations of the usual altar for sacrifice in front of it, in this case of huge size, being over 70 feet long. And the division of its chamber into two parallel naves by the central colonnade suggests that we have to deal with a temple in the service of twin divinities. The names of Demeter and Persephone at once leap to the mind, and it is not improbable that the mother and daughter goddesses of the earth had their sanctuary here side by side with the dwelling of the sea god, for we know that their cults were associated by the inhabitants of the city. With regard to date, older authorities considered the building to be posterior to the greater temple, but modern opinion tends to reverse this view and to regard the second temple as the earliest edifice on the site, dating from the middle of the sixth century B.C.

The third temple stands apart at some distance from the other two and is much smaller, being only 100 feet in length by 45 in breadth. In beauty, however, it is in no way inferior, and

on any other site but this, where it is overshadowed by its colossal neighbours, it would rank as one of the most remarkable of surviving Greek buildings. Here again the outer colonnade is complete, of thirty-four columns, six at each end, each column being 17 feet high. The architrave and large portions of the end gables are also preserved. It is believed to date from the last quarter of the sixth century B.C., being thus later than the "Basilica" and earlier than the great temple. It is popularly called the Temple of Ceres; what its real name was we cannot say.

The list of remains on the site is not exhausted; there is a fourth temple, of the Corinthian order, a theatre and an amphitheatre—all of the Roman period. Outside the city walls tombs have been opened containing weapons and fine frescoes, some of which are now in the Museum at Naples. But it is to the three Doric temples we have described that Paestum owes its fame and the buildings of a later age may well be neglected.

What then was the city that stood here and what manner of men were they who set up these shrines? We know curiously little; there are the coins of the city, which are common in every numismatic collection and which rank among the most beautiful of all Greek coins; these testify to the wealth and artistic taste of the community, confirming the lesson the temples themselves teach us. But written history has preserved but little record of the human activity that once throbbed on the now desolate shore.

The city was founded about 600 B.C. The mighty Greek trading centre of Sybaris on the Gulf of Taranto, then at the height of that prosperity which has made its name a byword for effeminate luxury throughout the centuries, established it as a naval outpost and trading colony on the western coast of Italy. Some have thought that a native Italian town already occupied the

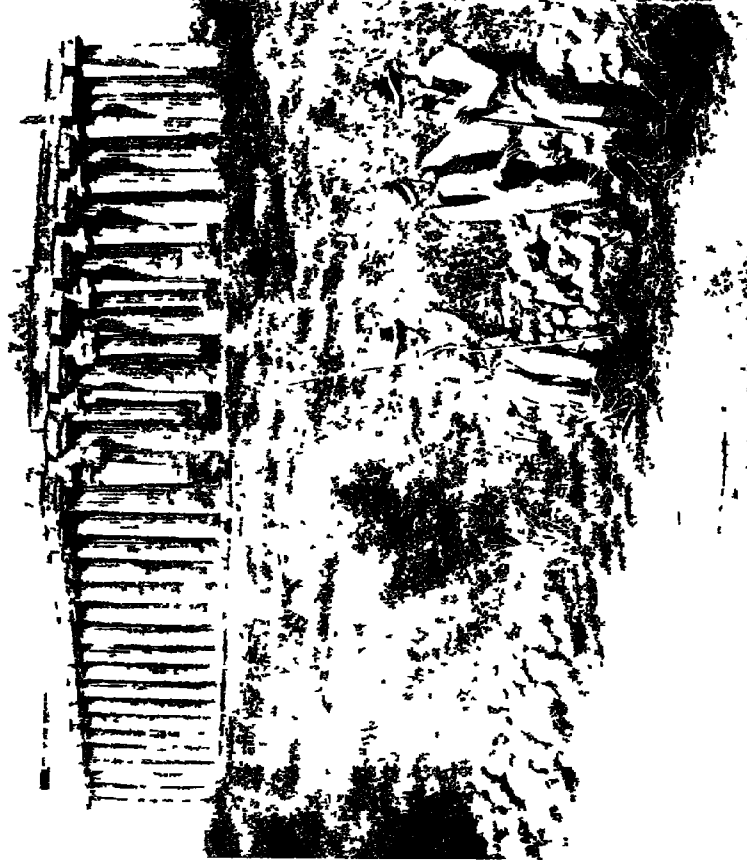
site, but the new settlement was purely Greek and was placed under the protection of the Greek God of the Sea, Poseidon, and named after him, Poseidonia. After this we hear nothing of it for many years; we can only judge that it prospered exceedingly from the evidence of its buildings and its coins, and from the fact that it gave its name to the entire stretch of coast from Capri to the Cape



TAPERING COLUMNS AND SHATTERED EAST PEDIMENT OF THE "TEMPLE OF CERES"

Built late in the sixth century B.C., the "Temple of Ceres" comes between the earlier "Basilica" and the later Temple of Poseidon in point of date. Like the other temples of Paestum it still has comparatively intact its outer shell of columns and architrave; the west pediment, too, is complete and in situ, but only this fragment of the eastern one remains. It will be observed from this photograph that the travertine stonework has a supporting layer of brick masonry in the posterior aspect of the pediments. In front of the temple there formerly stood a sacrificial altar which was as broad as the temple front itself.

Photo by Ewing Galloway



WHERL IHL HAND OF TIME HAS NOT LAIN HEAVY--

Nowhere, save on the Acropolis of Athens itself can the simple majesty of Greek architecture be so strikingly apparent as at Paestum, the ancient Iuuanian city where the twice blooming roses of the fifth century B.C. and called "Psephenia," after the sea god, the first stronghold of the Syracuses in the seventh century A.C. flourished. Especially a crash in manners, speech and architecture. "Lilies," about 430, falling to the Lucanians, it began to lose the imprint of *Archaia* and the slow decline began. Finally, in the third century A.C., now



---THE BASILICA AND TEMPLE OF POSEIDON, PAESTUM

a colony of Rome, her degeneration was irretrievably established, the city was known even in Augustan days to be malarial and unhealthy. The Utriteri deserted for many centuries practically all that can be seen to tell us of a glory that is gone are the ruins of the Utrine in the Temple of Proserpina, and the so called "Temple of Ceres" from these well preserved ruins our unaided mental picture must differ in no essential from the restoration in the colour plate. Perfect with tapering symmetries in the Temple of Proserpina on the right

of Licosia which we now call the Gulf of Salerno. In the fourth century P.C. trouble came. Italian tribes descending from the mountains stormed the city which for nearly two generations had to endure their supremacy. Every year it is said, the Greek inhabitants met upon a certain festival day to bewail their captivity and to tell of the greatness of bygone times. In 330 B.C. the Greeks recaptured the city from the barbarians and it was probably then that the great walls we still see were built. But the old Greek stock in Southern Italy was exhausted. The Italians again seized the place and in 273 B.C., when Rome got possession of it, the Greek inhabitants would

lingered on until the ninth century A.D. when, worn out by the constant struggle against disease and Saracen pirates, the inhabitants abandoned the site and fled inland to the safety of the hills.

Two centuries later the Norman Robert Guiscard, tore down most of the Roman structures to obtain materials for his cathedral at Salerno but the Greek buildings he spared probably because their massive blocks were too cumbersome to move and the temples were left in a silence which remained unbroken for more than six hundred years. It is one of the most curious facts in the history of archaeology that these enormous ruins less than twenty five miles from the learned city



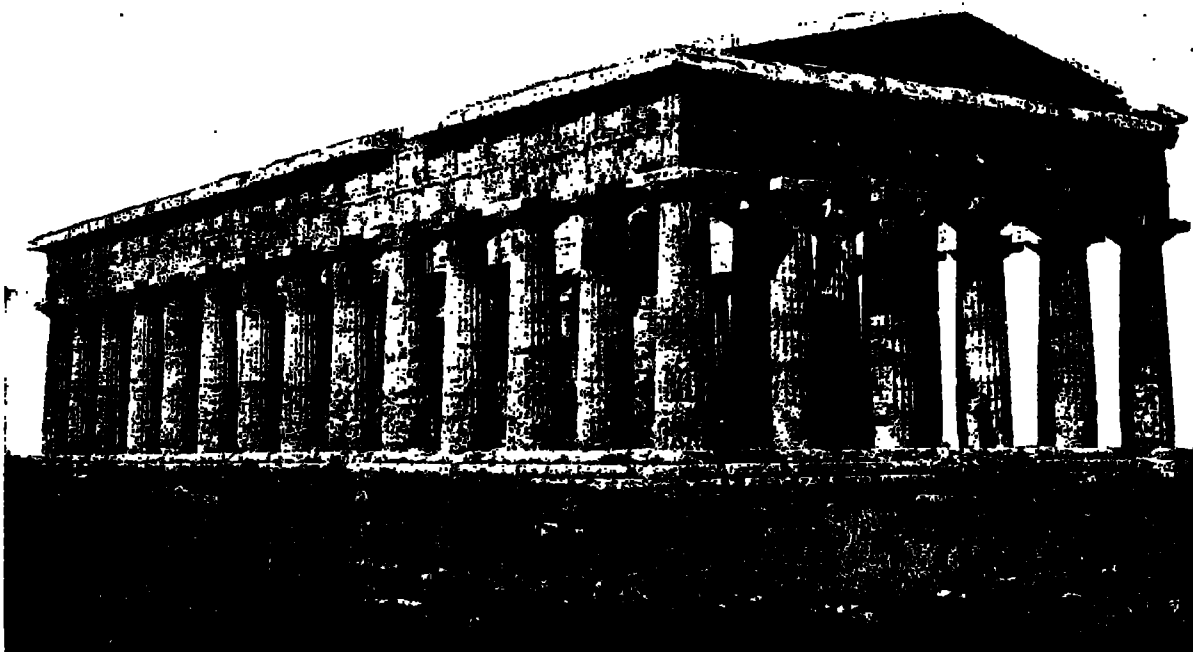
THE BASILICA UNPRETENTIOUS NEIGHBOUR OF THE TEMPLE OF POSEIDON

Built earliest of all the Paestum temples, the so-called "Basilica" displays much less beauty in its construction than the Temple of Poseidon close to which it is situated. Its plan is unique, there being nine columns on the fronts and eighteen on the sides, with a line of columns running down the centre of the interior dividing it into parallel naves which suggests that the building was the shrine of twin deities. The broad capitals rest on mail cleft tapering columns and there is a leaf decoration on the necking. In front of the east end of the shrine stood the great sacrificial altar, 70 feet long and 20 broad.

appear to have been almost extinct. A Roman colony was established here under the name of Paestum and the name of Posidonia passed away out of use and even out of memory.

Even of the Roman foundation we read next to nothing. It is recorded by a historian to have distinguished itself by its unswerving loyalty to Rome in the terrible war against Hannibal. The poet Virgil speaks of the roses of Paestum which flowered twice as if the gardens where they grew were the loveliest he knew. There are no rose gardens now, and even in Virgil's time the place was doomed, for malaria, the scourge which some authorities hold to be the real cause of the downfall of the Roman Empire, was beginning to settle on the low lying coastal plain. Some sort of settlement

of Salerno, and less than four miles from Capuccio, another episcopal city remained entirely unknown all through the Middle Ages and the Renaissance. It was not until about 1740 that they were rediscovered. Throughout the intervening centuries there is no record that they were ever seen by human eye. Even now, when the marshes are being reclaimed, the impression we carry away from them is one of isolation and brooding solitude. The city's greatness was due to commerce, and the shelving open shore on which the ancient merchants could so conveniently beach their light galleys is useless for modern shipping. The malaria may be subdued and the roses may once again bloom along the shore, but the throbbing life of a crowded commercial city will never more return.



GREECE IN ITALY: THE SYBARITE TEMPLE OF POSEIDON AT PAESTUM

In excellence of preservation the Sicilian Temple of Concord at Girgenti (see photo in page 98) surpasses the ruin shown above, and the buildings of ancient Athens have a grace and lightness not found here, but one cannot but be deeply impressed by the sense of uncompromising power which emanates from the massive columns and unadorned masonry of this ruin. Built of travertine limestone, with six columns at either end and a flanking colonnade of fourteen Doric columns on both sides enclosing the cella, the temple thus follows the Greek canon of proportion. See coloured plate facing page 997.

The Wonder Cities. XXVII.

The Lost Cities of Ceylon

By G. E. Mitton

Author of "The Lost Cities of Ceylon," etc.

THIS is the last of three articles on the wonders of Ceylon, written for this work by a leading authority on the antiquities of the island. The first contribution described the Palace on the Rock of Sigiri, built for King Kasyapa. The second chapter dealt with the dagobas, relic shrines, or commemorative monuments, for which Anuradhapura and the hill of Mihintale are famous.—EDITOR.

SCATTERED throughout the north-central province of Ceylon are ruins of great architectural beauty. The greater part are found in the areas occupied by the ancient capitals of the Sinhalese, Anuradhapura and Polonnaruwa, distant from one another about sixty miles. We have, most fortunately, a complete history of these cities and the people who occupied them, a great deal of it written contemporaneously. This is found in one of the most wonderful historical chronicles in the world, the Mahawansa, where the minutest details of the reigns of the ancient kings are given. This was only rendered accessible in the middle of the nineteenth century by the scholarly work of a member of the Ceylon Civil Service, George Turnour, later supplemented by that of a native of Ceylon, L. C. Wijesinha, who completed the translation.

From the chronicle we learn that the city of Anuradhapura was founded about 437 B.C. The city reached the zenith of its glory in the reign of the hero-king, Dutugemunu, who, in 101 B.C., conquered a Tamil usurper who had occupied the throne for forty-four years, and established himself in the place of his fathers.

It is to Dutugemunu that some of the proudest remaining monuments in stone and brick are due. The Mahawansa tells us of the successive kings, of their numerous fights with hordes of Tamils, who came over on raiding parties from India, and generally succeeded in carrying loot back with them; it tells of the monuments raised, of works of merit constructed in the way of tanks, as the huge lakes for water storage are called, and of the personal history and characters of the kings and their families. The Sinhalese were converted to Buddhism before Dutugemunu's time, in the reign of King Tissa (247 B.C.), and their temples were all Buddhistic.

In the eighth century A.D., after desperate struggles, many reverses, and some successes, the unequal contest was given up, and Anuradhapura was abandoned as the royal city, because of the

Tamils, who, in the picturesque language of the Mahawansa, were "like unto demons who suck up blood, and took to themselves all the substance that was therein."

The most notable king at Polonnaruwa was Parakrama I., who was contemporary with our Henry II., of England, and showed not only soldierly qualities, but marvellous wisdom and advanced ideas. About the end of the thirteenth century, Polonnaruwa also became uninhabitable, because of the Tamils, and the later capital was at Kandy in the middle of the island.

It is in these two so-called Lost Cities of Ceylon, which lay for ages hid in the jungle, known only by tradition, that we find the most beautiful and singular conceptions wrought in granite, in many cases as sharp in outline as the day they were done—anything up to two thousand years ago.

A reflection inevitably aroused by an investigation of these works of antiquity, is the absence of anything like artistic capability in the present-day descendants of the men who conceived and executed them. We find the same thing in almost any country which preserves similar relics. The race which possessed lofty ideas and artistic power, which had force and skill to embody its ideas in permanent form, is represented to-day by people wholly without these qualities.

The Lost Cities of Ceylon cannot be compared, either in size or extent, with the vast remains existing in Cambodia, but in a comparatively small space they include more suggestive problems, more features peculiar to themselves, than are to be found in the same area anywhere else in the world. The moonstones alone, peculiar to them—not to be confounded with the milky-blue jewels also found in the island, and somewhat unfortunately called by the same name—are enough to draw lovers of beauty from all quarters of the globe. Being hand wrought and executed presumably by different artists, the stones differ from each other, but certain details are common to all. They are invariably semicircular, and are

placed at the foot of flights of steps leading up to viharas (temples) or dagobas.

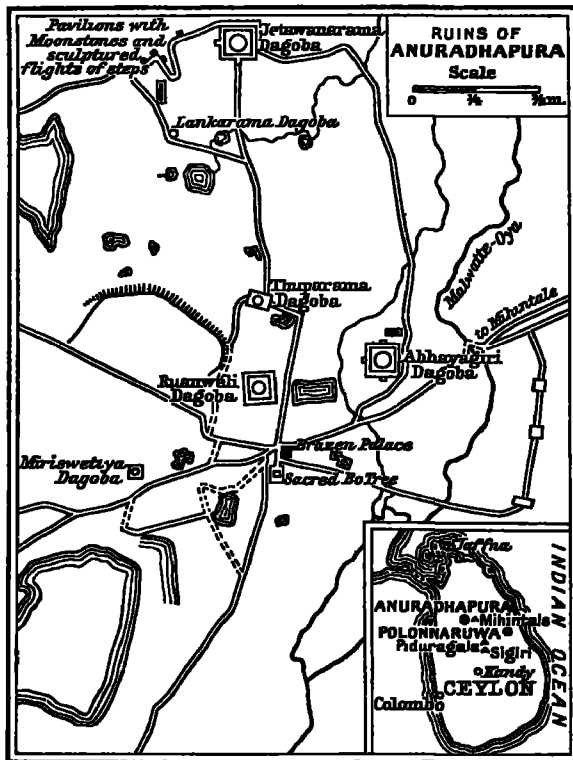
The design is arranged in concentric rings, some of which are conventional, being graceful forms of intertwined lotus plants, but the most noticeable is that which runs outermost, except for a floral border. This consists of a strange procession of moving animals following one another from left to right. At Anuradhapura these beasts are usually the elephant, lion, horse, bullock, in this order, which are shown in repeated succession. On the ordinary-sized stones there are generally nine of them, so that the elephant begins and ends the series, but on two superb examples, one at a vihara on the Outer Circular Road, and one at the

a floral ring, is a row of the hansa, or sacred goose, each one carrying a bit of lotus flower in its beak. Here again the artistic excellence of the design and execution varies greatly, and it is amusing to note that in some cases space has not been measured out, and the geese grow smaller to fit in at the end. On one stone, indeed, there is no room left for a full-sized goose at all, and the last one is depicted end-on, looking back over its shoulder. On a smaller stone at the entrance of the Tooth Temple, though there are the usual nine animals, there are fifteen geese jammed together, with their beaks resting on each other's wings, whereas on the larger stones there are only nine. At Polonnaruwa, the second capital, in its zenith about the twelfth century, fashion has changed, and the moonstones usually have a ring of very small geese outside a row of spirited and varying elephants, within which is again a row of horses.

Connected with these stones are the well-shaped and well-carved balustrades, also of granite, often in the form of a fabulous beast, known as a makara, whose scales and claws are worked with minute nicety; it embraces a panel, frequently having in low relief one of the amiable and eager lions as represented by the Sinhalese. At each side there may or may not stand a guardstone, on which some of the finest carving is wrought.

These guardstones are found not only at the entrance to viharas, but at the flights of steps leading to dagoba platforms and elsewhere, the most attractive form being that of a graceful figure, suggestive of Indian art, holding an orb and attended by a dwarf. The best and largest was found at what used to be called "The Elephant Stables," owing to the giant size of the granite columns on the platform, 2 feet square by 16 feet in height; it dates from the reign of Mahinda II. (A.D. 838-858), and is all on the largest scale. The door guardian was specially preserved in its delicacy of line by having lain face downwards on the earth for unknown generations, and thus escaping the heavy monsoon rains. It is 5 feet high and shaded by a carved canopy, an unusual feature. Some of these guardians take the form of dwarfs, hideous enough to frighten off any undesirable visitors. Others again may show simply a many-coiled and many-headed cobra with a jewelled collar, and very rarely they have merely a lotus flower inscribed. The many-headed cobra frequently appears in the ornamental work, and betokens reverence for the cobra which sheltered the Buddha from sun and storm while, lost in meditation, he had no care for the needs or sufferings of his own body.

The most striking representation is undoubtedly that on the higher levels of Mihintale hill, which



sacred bo-tree, there are thirteen animals. In the latter the lion is twice omitted, and the series is irregular, though begun and ended by the elephant, as it invariably is.

In some stones certain animals are better executed than in others, but in all the elephants are good, as might be expected, seeing that elephants are indigenous in the island. The horses are usually clumsy and the lions grotesque. In spite of the fact that the Sinhalese derive their racial name from a lion, it does not appear that there were ever wild lions in Ceylon. The bullocks are generally very tolerable.

Inside the animal ring, and divided from it by

stands sharply up from the plain, some eight miles from Anuradhapura. Here, on a terrace, raised so high that the western jungle can be seen spreading to the horizon like an ocean, is a rock pool, 132 feet in length and of unknown depth. Against the scarped cliff which springs sheer from it and is unreachable except from the water, the giant head of a five-hooded cobra is carved on the living rock; it is some 5 feet by 6 feet, and the thick body disappears into the water, tradition saying it continues on the bottom of the pool. This is supposed to be the "nagasondi," created by Aggabodhi I. (A.D. 629).

On a lower level of the same hill is one of the most fascinating of the Sinhalese fancies. This is a square rock-cut bath, one end of which is supported by a large lion, whose body, very much "in the round," stands boldly out. He is on his

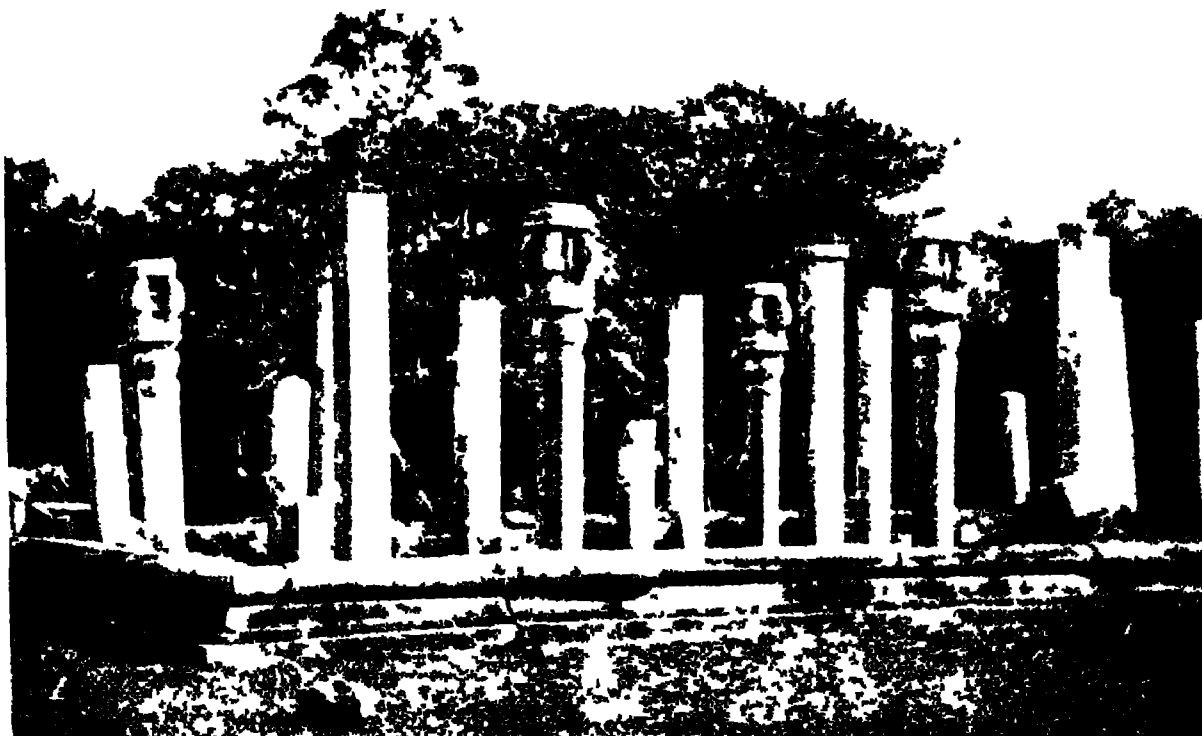
hind legs, with paws upraised, like a begging dog, and wears that scraphic smile peculiar to his kind. He is 7 feet 4 inches in height, and shows an extreme virility in his action. But perhaps of more real interest are the remarkable panels which border the bath, and depict in miniature, scenes of dancing girls, dwarfs fighting or boxing or wrestling, with so much verve that this monument is second to none.

The Sinhalese were very good at this small work in stone. Many of the capitals of the columns, showing friezes of dwarfs or geese, are executed with precision and energy. Out in the jungle from Anuradhapura lies what is known to have been a "preaching hall"; here some of the panels are wrought with grace and skill. The chief feature of all the work is its restraint; the excellent proportion and strength of line is unhampered by



PLANTED IN THE THIRD CENTURY B.C.: THE OLDEST HISTORIC TREE IN THE WORLD

The ancient bo-tree has made Anuradhapura a sacred as well as a royal city. This, the oldest historical tree in the world, was planted from a branch of the bo tree under which the Buddha sat when he received revelation. It was brought from India by the sister of the apostle Mahinda, in 288 B.C. For over two thousand years the tree has been tended by a company of monks, who watered it with milk during one terrible drought. Now it is guarded by terraces and gates.



THE DALADA MALIGAWA WHERE BUDDHA'S TOOTH RESTED FOR NINE HUNDRED YEARS

This temple is said to have been built in India by a Kandy princess about 311 B.C. It is now one of the most precious possessions of the Sinhalese and is kept in Kandy and carried in procession once a year. Some say the original tooth was destroyed by the Portuguese and that the present one is a duplicate. It is anyway about two inches long and the thickness of a small finger. The curiously shaped capitals of this temple are supposed to represent teeth.



CARVED PILLARS OF AN ANCIENT TEMPLE AT ANURADHAPURA

The ancient city of Anuradhapura was of vast size. The wall is said to have been 65 miles in extent, and one street leading from gate to gate was 16 miles long. The houses were probably of wood and have not survived. To day the whole site is littered with ruins of stone and brick buildings, chiefly of a religious character. These graceful pillars mark the site of what was evidently an important edifice, probably a Buddhist viharā or temple, approached by the usual moonstone and steps.

Photo by M. H. Harland

that profusion of ornament which later crept across from India and tainted the work. Some of the Southern Indian temples, miracles of ingenuity and patience though they be, are nightmares in regard to ornament.

Among the work of this epoch it is not usual to find any scenes of wild life inscribed, beyond those arising from the Jatakas or scenes in the lives of the Buddha. Hence it is extremely interesting to have discovered at Anuradhapura a panel in one massive balustrade-stone unfortunately split by the weather, showing a bas-relief of a mother monkey clasping her young one to her breast, while a cobra, rising from below, is toiled in his evil intent by his natural enemy, the mongoose.

Among other strange objects, in and about the city, which have evoked much speculation, are the great stone canoes, some 60 feet in length and made of massive blocks of granite hollowed out. The fact that these are invariably in connexion with almshouses has led to the belief that they were receptacles for the collection of rice from the pious rich for the benefit of the poorer brethren. A strange kind of alms-box!

Images of the Buddha are not so frequent here as might be supposed. They are easily overturned, and being often made of or covered with precious metals, were probably a special object of the Tamils' cupidity. One such is described to us by Fah Hien, the Chinese pilgrim about A.D. 400, as having been made entirely of green jade, and holding in its hand a priceless pearl. As it was 20 cubits in height, and a Ceylon cubit is taken at 2 feet 3 inches, this makes 45 feet, and it must have been valuable indeed. Another, made by King Mahinda II. (A.D. 838), was fashioned from 60,000 pieces of gold, and had its head adorned with a jewel of great value. While yet another, of King Datu Sena (A.D. 495), had its "supreme curly locks" ornamented by a 'profusion of sapphires.'

A few statues stand on the platform of Ruanwel, the most noted dagoba. These represent a king and the four Buddhas of these eras. The king was said to be Dutugemunu, the builder of the dagoba, and tradition points to another as that of King Bhatikabhaya (A.D. 42).

By far the greatest of the personal statues is that at the city of Polonnaruwa, an unmistakable portrait in stone. It was for long said to be Parakrama the Great (A.D. 1153), but as the man is undoubtedly a 'holy man,' for he holds a palm-leaf book as a warrior-king would not do, it is now supposed to have been some learned abbot of date contemporary with Parakrama. The statue is 11 feet 6 inches in height; it is cut

from the living rock, on which a little boss is cleverly manipulated to allow the cap to rise above it. It is done by a master-hand, and is always one of the first objects to be asked for and the first to be admired by those who traverse the jungle roads to this jungle city.

Such was the art of a vanished kingdom. To



FAVOURITE DEVICE OF ANCIENT BUDDHIST ART
Among the guard-stones at Anuradhapura are many representing the Naga or multi-headed cobra. This is another variant of tree and serpent worship, or a tribute to the cobra which sheltered the Buddha in his meditation. The Naga in this photograph has seven heads, with the hood spread. The number of heads varies, nine being the maximum.

Photo by M. H. Holland

consider now the two cities as a whole. The great beauty of Anuradhapura lies in the immense area over which are scattered ruins, any one of which may turn out on inspection to be a gem of sculpture or architecture. The remains at Anuradhapura are of granite, which is found in the neighbourhood, with some limestone, and a good deal of brick, originally concealed beneath plaster. At Polonnaruwa this is reversed, there is some granite, but the greater part of the temples and buildings are of brick. We read of Anuradhapura enclosed by walls 65 miles in extent. The streets were laid out in straight lines, one at least, from gate to gate, being 16 miles long. The dwelling houses have vanished, being probably

largely constructed of wood, but we have a picture of what they looked like on a stone used for a common purpose, of which two examples survive. In this wonderful city were employed no less than 500 scavengers for cleansing the streets and purifying them by removing refuse, they also carried away the dead. The corporate life was carried on with a degree of civilization amazing to consider in view of its antiquity.

The kings adorned the temples and dagobas with bands of precious metals, there were statues of the Buddha with eyes made of valuable jewels, beds of fragrant flowers were grown for the use of the temple. One king at least covered the enormous dome of the Ruanweli dagoba—larger than the dome of St Paul's in London—with red paste into which were stuck flowers, until it looked like a huge nosegay. Another laid a carpet, eight miles long from the sacred hill of Milindale so that the pilgrims might arrive with

clean feet. On festival days enormous paintings depicting scenes in the life of the Buddha were carried through the streets.

What is left of this magnificence? There are the dagobas, solid piles of millions of well-baked bricks, the highest of which reached the height of 400 feet when first built. They are shrunken now, in spite of excellent foundations but they are still wonderful. Ruanweli has lost its original pudding-basin outline in a landslide, but it is 178 feet high. It was built over a collection of relics more sacred than any buried in a dagoba before. Abhayagiri and Jetawanarama dagobas are 249 and 230 feet high respectively and are crowned by great steeples of brick. They are commemorative monuments with no inner chamber. From some points all three domes can be seen at once rising over the trees, but they are overgrown with jungle which cannot be removed as the roots are interlaced with the brickwork. There are



THE THUPARAMA DAGOBA SHRINE OF BUDDHA'S COLLAR-BONE AT ANURADHAPURA

This is the oldest Buddhist shrine in Ceylon being erected by King Devanampiya Tissa about 247 B.C. It is composed of solid brickwork. Buried in the centre probably in a golden casket, is a very sacred relic—the right collar bone of the lord Buddha brought from North India by early missionaries of the faith. This dagoba stands upon a high platform of brickwork and is surrounded by tall slender pillars originally numbering 176. It was restored and much altered in 1842.

Photo by M. H. Harland



BALUSTRADE OF AN ANCIENT STAIRCASE AT ANURADHAPURA

This is a typical example of the wing of a balustrade at the entrance to a sacred building. The Sinhalese derive their national name from Sinhā lion. But there are no lions in Ceylon, and the beast they have evolved is peculiar to themselves. The creature above the lion is frankly mythical—a cross between a dragon and a crocodile.

other dagobas not quite so large at Polonnaruwa, and smaller ones in plenty, such as the gleaming white bell shape of Thuparama (restored), 63 feet high at the more ancient city.

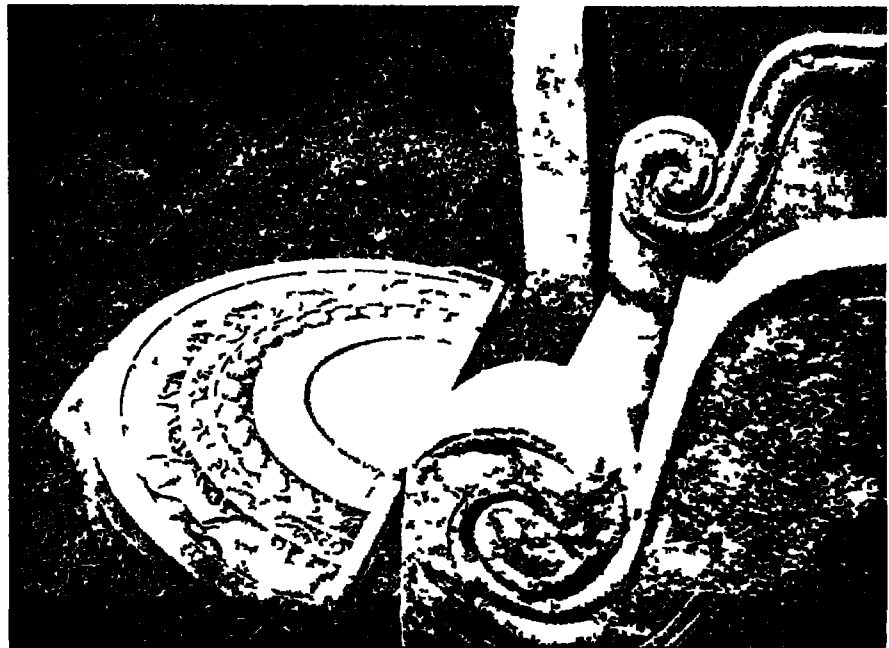
One of the most interesting objects remaining to this day is the collection of 1600 granite columns set closely together, on which was reared the splendid Brazen Palace with nine roofs, built in the first place by Dutu gemunu who, as he lay dying on a granite slab, still to be seen, turned first to one side and then to the other to survey this and Ruanweli, his two proudest monuments because built by paid—and not forced—labour. As he lay thus he sent for his trusty warrior friend, Thera puttabhaya who had fought twenty eight battles by his side and said to him: "Now single handed have I commenced my conflict with death."

The Brazen Palace was paid for not only in

money, but by a thousand suits of clothing and gifts of butter and honey put at the gates for the workmen. The interior decoration was sumptuous including an ivory throne with the sun on it in gold, the moon in silver and the stars in pearls. More wonderful still considering the era the carpets were of woven wool, there were festoons hanging from the lamps and all the implements, even down to the rice ladle, were made of gleaming gold.

The building was for the use of monks attending the sacred Bo Tree close by, which was planted in the reign of King Tissa (288 B.C.) from a branch

of the bo-tree under which the Buddha sat when he received inspiration. Great were the ceremonies and rejoicings at its planting. For two thousand years it has stood there and even in the days when the city was deserted a few monks tended it.



MOONSTONE OF TEMPLE OF THE SACRED TOOTH

On these carved stones elephant, horse, lion and bull look wise each other and are always found in this order in Anuradhapura. They may have had some symbolic connexion with the cardinal points. On the inside is a semi circle of sacred peacocks carrying lotus buds in their beaks. The carving now, 1500-2000 years later, is as fresh as the day it was done.

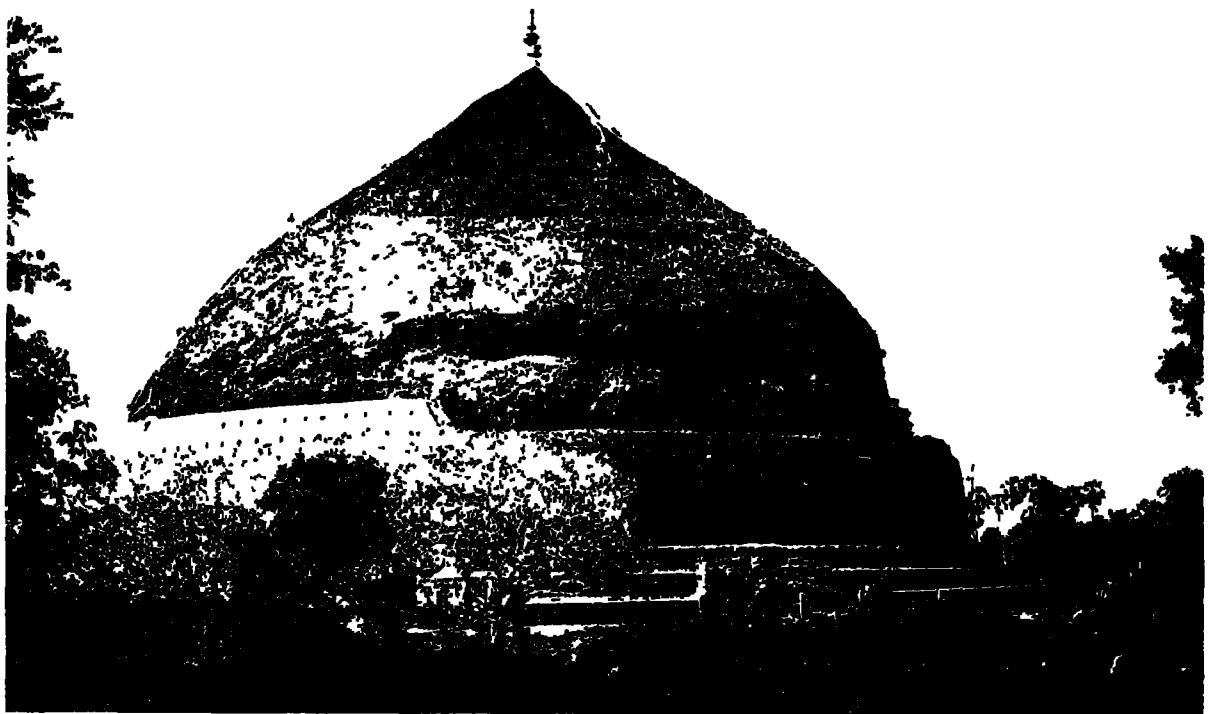
It is frequently referred to throughout the Chronicle; in time of drought it was once watered with milk. It is now old and shrunken, guarded by four successive terraces, which have been built up round it. Thousands of pilgrims from all parts of the Buddhist world visit it, and to obtain a leaf is to establish a family heirloom. But few and scanty are the leaves on the parent tree, though the black monkeys leap freely in the leafy grove of its progeny around. It was mainly due to the presence of this, the oldest historical tree in the world, that Anuradhapura was as sacred as well as a royal city.

The ruins of the Tooth Temple, with its curious carved columns, supposed to resemble teeth, bring to mind the Tooth of Buddha, a symbol of royalty, brought over from India in A.D. 311, and carried about in all the vicissitudes of the throne. It was stolen and recovered more than once, and he who held it held a talisman of potent influence with his fellow-countrymen. Whether it is the same tooth which is now lodged at Kandy is a moot point, as some say the original was stolen by the Portuguese and never recovered. The Wata-dagé, the circular

relic-house remaining at Polonnaruwa built by Parakrama, is supposed to have housed the Tooth.

Another feature of the ruined cities is the beautiful open-air baths, built with enormous hewn blocks of granite, and having flights of steps with balustrades falling into them. Sometimes also dressing-rooms hewn from the living rock are provided. One smaller bath, about twenty-five feet across, of a most exquisite flower pattern, was recently discovered in the jungle about four miles from Polonnaruwa, and this is evidently identical with that lotus-flower bath built by Parakrama for the monks in the twelfth century.

It is curious that no trace of any palace has been discovered at Anuradhapura. At one time a very large temple, with a magnificently carved moonstone, was called the King's Palace, a name which has stuck to it, though it has long been proved it must be the extra large temple rebuilt by Mahinda II, at a cost of 300,000 pieces of gold. But at Polonnaruwa we have the shell of Parakrama's palace, without doubt. Five months were devoted by the archaeological authorities in 1911-1912 in clearing out the debris from this splendid ruin. It is of brick, and shows two large



RUANWELI, THE MOST FAMOUS DAGOBA AT ANURADHAPURA

This mighty dagoba, Ruwanweli, was one of the proudest works of the great warrior king, Dutugemunu. It was still unfinished when he gazed at it with dying eyes in 77 B.C. It is composed of millions of bricks, with one tiny central chamber, where were deposited a collection of relics such as had never before been brought together. The dagoba is now only 178 feet in height, having lost about 200 feet. It is one of the Eight Sacred Places of the Buddhist community at Anuradhapura.



ROYAL BATHING TANK OF ANCIENT ANURADHAPURA

Bathing tanks played a large part in the life of the people. There are many in and about the royal city. Two of the most known as the Kuttampokuna or Twin Baths, are placed end to end measuring about 270 feet in length and 51 feet in breadth. The smaller one of them is seen above. When discovered, it was in a very ruinous condition but the right hand side has been restored to show its former appearance. Note the huge block of stone.

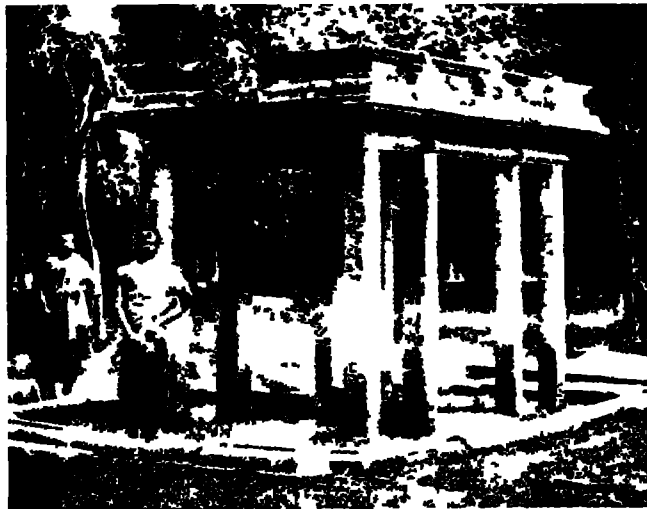
Photo by F. Deerville Walker

halls, the larger measuring 102 feet by 42 feet with walls 10 feet in thickness. Besides these there were other large rooms above, as the building reached three storeys. Probably there was a balcony or veranda. All around—what we should call the "compound"—are a number of small buildings of the same depth but varying lengths which are presumed to have been for the use of attendants. There is a staircase in the main building. Indications show that the rooms were not only large but lofty and well-lighted, and there was a supply of water laid on and sanitary arrangements, at a time when these things were not thought of in kings' houses in England.

Near by was a pleasure park laid out by Parakrama, of which we have a long description in the Chronicle. It was called the 'Park of Heaven,' and was filled with flowers and fruit-bearing trees. Bees were drawn to it by the sweet odours of the jasmine

and irangipanni. Peacocks strutted about on the well clipped sward. There were lakes and summer pavilions built on miniature islands and peninsulas. One was a snow white house and near it was a hall for displaying divers branches of knowledge and the arts—what we should call a museum in fact. One ruin in the palace showing a frieze of elephants with extraordinarily life like and varied movements gives us

some idea what these pavilions may have looked like. Besides these amenities there were baths of strange devices, one overlaid with stones coloured like the body of a serpent. Another had in one corner a hall built on to a rectangular hall overlooked by a water tower from which issued forth sprays of water that were conducted through pipes by means of machines making the place to look as if the clouds poured down rain without ceasing. The foundations of these are



PRINCE MAHINDA'S PREACHING HALL

To day well kept lawns and fine carriage roads give to Anuradhapura a beautiful park like appearance. This graceful pavilion has been carefully rebuilt. Tradition declares it to be the preaching hall of the royal missionary Mahinda sent by his father Asoka to introduce Buddhism into Ceylon. The two monks are pilgrims.

Photo by F. Deerville Walker



ALL THAT REMAINS TO-DAY OF THE GREAT BRAZEN PALACE AT ANURADHAPURA

The Lobo prasada, or Brazen Palace, is supposed to have been built before the beginning of the Christian era as the chief monastery for the monks of the city. It had at first nine storeys, the roof covered with brazen tiles which shone like gold in the burning sun. It was many times destroyed and rebuilt, but the 1,600 monoliths of granite still standing are supposed to be the original columns. One or two of these had been split, evidently to replace a few missing ones. In it was a throne made of ivory with upon it the sun in gold the moon in silver the stars in pearls. Even the rice ladles were made of gold. The king paid the workmen by depositing money clothing, honey and butter at the four gates

still in existence exactly as described. This delightful pleasure garden was enclosed by railings decorated with rows of images carved in ivory. To-day the rest house for visitors is actually within its area.

Polonnaruwa is less known than the older capital, not being on any railway, but lying at the end of a road which here disappears into the jungle. The animal life is consequently a great feature, and wild elephants, the tsang and other large creatures can be seen in their native state. Parakrama's mother was a Tamil, and many of the Tamil raiders stayed behind when their fellows withdrew and intermarried with the people of the island, so that by his time the influence of Indian art was sensibly felt. Some of the larger temples, such as Thuparama and Jetawanarama, are full of similarities to Indian buildings. Thuparama Temple has been carefully restored. Some of the smaller buildings are called after Hindu deities, as Siva devale and Vishnu devalé, both gems of architecture in a miniature way. A very odd building is the Sat mahalprasada, a seven-storeyed erection of diminishing size, not hollow but filled in, with the exception of a small passage through which a snake might creep. There is something similar found in Cambodia (see pages 73-62).

Close by is the Gal-pota, or stone book, nearly twenty seven feet in length, and four feet seven inches in breadth varying in thickness from one foot four inches to two feet two inches. It is in exact imitation of an ola, or palm-leaf book, and carries an inscription of King Nissanka Malla (1187 A.D.). This stone, which is highly carved, as well as being inscribed, was brought from Mihintale about sixty miles distant, though it weighs twenty-five tons. At a little distance out in the jungle is the famous prostrate image of the Buddha mourned by his disciple, the sorrowing Ananda. The image of the Buddha is over forty-four feet in length and attracts pilgrims from far and wide who do honour to him by swinging water from a lota over his head, and chanting a strange and musical litany.

Even now only the most remarkable features of these cities have been catalogued, and much remains to be told. But a city like Anuradhapura, which existed as a capital for twelve centuries, and is so remarkably revealed to us in its unequalled historical Chronicle, will always lure the imagination. In addition to this there is in both places that fascination of a bygone race revealed in some of the most artistic and original monuments to be found in the world.

Temples of the Gods. XXII.

Rome's Strange Temple Underground

By Mrs. Arthur Strong, C.B.E., D.Litt., LL.D., F.S.A.

Assistant Director, British School of Archaeology in Rome, 1909-25; author of "Roman Sculpture from Augustus to Constantine," "Art in Rome," etc.

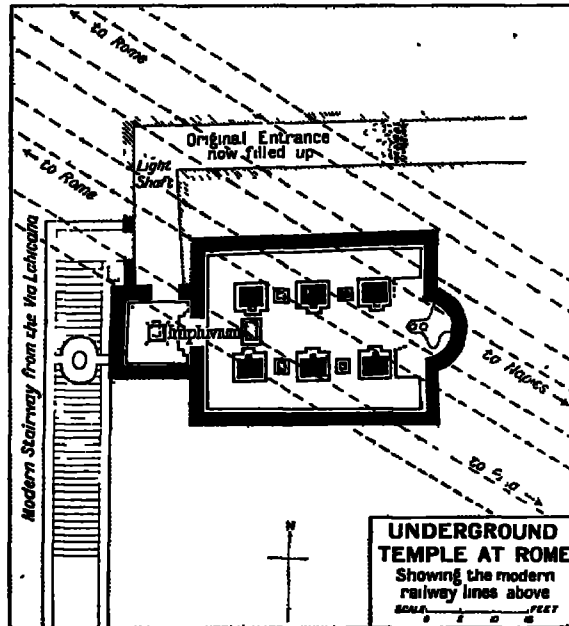
Illustrated with photographs supplied by courtesy of the Italian Government.

WE should have to go to Egypt to the Tomb of Tutankhamen, or to Crete to Sir Arthur Evans' excavations of the Palace of Minos, for a discovery as sensational as that which in the spring of 1917 revealed the existence of a large subterranean structure close to the Porta Maggiore at Rome. As it lies 50 feet below the main lines from Rome to Naples and Pisa it, discovery was nothing short of a miracle. It was the unexpected sequel to a threatened displacement of the soil of the embankment which the railway engineers were at first at a loss to account for. While probing the ground in every direction they came upon a narrow circular shaft or light well through which they penetrated into a corridor, and thence through a hole into a large hall measuring 12 by 9 metres, which was filled with earth to two-thirds of its height and covered with well preserved stuccoes. Systematic clearance of the site soon disclosed an apsidal chamber of basilican plan, divided into nave and aisles by two rows of massive pillars, and approached precisely like a Christian basilica—by a square atrium or pronaos. In fact, were it not for the purely pagan character of its stuccoes, the building might be taken for a Christian basilica of primitive type crected underground in days of persecution. The resemblance to a church is still further emphasised if we accept the marks of attachment against the wall of the apse as evidence that a seat for an officiant priest once stood here, somewhat like a bishop's throne within a chancel. That a building possessing the essential features of an early Christian basilica should have existed in

pre-Christian Rome came as a surprise. Recent investigations, it is true, had prepared archaeologists to look for the prototype of primitive Christian churches in those apsidal halls with nave and aisles which had sheltered the mystery religions of ancient Greece—more especially those connected with chthonian or underworld worship; but no one, up to the time of the Porta Maggiore discovery, had ever dreamt that the basilican plan, perfect in all its main aspects, had been evolved by paganism before passing into Christianity.

It is evident that the new hypogeum, which represents so advanced a phase in the development of the religious basilica, must itself have served a purpose similar to that of the halls from which it derives. In the apse are two sacrificial pits and it is reasonably assumed that the skeletons of a pig and dog, found interred close by, were originally sacrificed over these pits on the day of consecration. Beside the impluvium of the atrium, likewise, the bones of a second pig were found. Dog and pig being animals sacred to the gods of the underworld, we shall not be far wrong in assuming that

the basilica was devoted to a ritual of the dead, but that like so many sanctuaries of the kind it offered individual salvation to its devotees by means of initiation. Though it was emphatically not a tomb (the sacrificial remains preclude the notion), it may yet well have been sunk deep under the earth to suggest resemblance to a tomb, that those who penetrated through the long gallery into the atrium might have the sensation of entering the grave and of passing from it into the abode of the Eternal Light, even as Virgil leads his characters





ROME'S DARK MYSTERIOUS TEMPLE OF A FORGOTTEN FAITH

Among the sensational archaeological finds of what may perhaps be styled the pre-Mussolini period, one of the least known but most interesting is that of the underground basilica of a mysterious religion which was discovered in Rome in 1917. Shaped in rectangular form and with walls of "selce" concrete, the great hall has on both sides three square pillars, and here we look from the entrance into the rounded apse at the opposite end where is found the symbolic frieze depicting the baptismal immersion of the soul on its voyage to the Isles of the Blest. The white floor mosaic is relieved by parallel black lines.



WINGED AND LIGHT AS AIR BUT IMPRISONED UNDERGROUND

Beautifully executed is this stucco with its winged, girlish figure—probably the soul freed from its bodily fetters. The subject is treated so skillfully that one would seem to see the ripple of the diaphanous garment. In such pagan relics we trace the origin of Christian angels.

through the gates of the underworld into the Elysian fields beyond.

The basilica, it must be borne in mind, was not buried naturally in the course of centuries but is a real hypogeum sunk deep into the soil from the first. The manner in which it was apparently built is best told in the words of Signor Gatti, the celebrated Italian archæologist who is responsible for the theory of its construction. "It must have been constructed," he tells us, "by excavations in the virgin soil above, corresponding in size and shape with the intended walls and pillars. These trenches and pits were then filled with the concrete (selce) of which the whole building as we have it, is in fact composed. The barrel vaulting and arches seem to have been similarly built over a centring provided by the virgin soil. Such a theory would account for the

irregularity of the lines of the walls and the lack of any symmetrical relation of the pillars to the main axis of the building.

The first aspect of the basilica after the earth had been carted away must have been that of a rock-hewn chamber; the rough surfaces would next be worked over and plastered and finally faced with the fine stucco work that makes the basilica one of the wonders of the ancient world. The quality of the concrete—a pure

'selce' without any admixture of fragments of tiles or other rubbish—enables us to date the building before or about



DEATH THE RAVISHER

Common in Roman tomb decorations is this scene—the rape of one of Leucippus daughters by Castor or Pollux. In outstanding contrast to the radiant abandon of ascendant Gaius (page 1021) are the fear-stricken gestures of the girl whose ravisher symbolises untimely Death.



LEADER OF THE ARGONAUTS IN HIS BOLDEST ENTERPRISE

Assuredly mythology was never more graphically illustrated than it is in these subterranean frescoes. Here is the bold Jason on the magical platform in the act of securing the Golden Fleece while Medusa by her magic power lulls to sleep its baleful guardian. The legend symbolises the hardships man must undergo in order to attain to the blessed after-life.

the middle of the first century A.D. This date is confirmed by the style of the floor mosaics, of the stucco decorations and of the wall paintings of the atrium. The nearest parallels of the same period are the celebrated Roman house discovered near the Villa Farnesina on the right bank of the Tiber, which was likewise richly decorated with stuccoes, and the elaborately painted Roman tomb of the Villa Pamfili-Doria.

Owing to a threatened collapse of the soil, the long corridor which led down to the basilica by a gentle gradient could not be completely explored, and its upper entrance has not been found. What is accessible runs parallel to the north wall of the main chamber, turns at a right angle below the light well, and enters the atrium on the left. The gallery was probably lit at intervals by light wells similar to the one through which the engineers had originally crept, and numerous fragments of mosaic and stucco—too minute, however, for reconstruction—show that floor and walls were of a style similar to those of atrium and basilica. The atrium has a fair-sized skylight, the funnel

shaped shaft of which was faced with good reticulate brickwork ("opus reticulatum") of mid first century date. Immediately below the skylight is a square "impluvium" to catch the rainwater which was carried off through a pipe on the left. The floor is covered with a fine mosaic pavement of first century character composed of a simple pattern of black lines on a white ground.

The decoration of walls and ceiling, though much damaged, is of the utmost delicacy. It is partly carried out in paint and partly in stucco, which is likewise occasionally coloured. Thus the atrium must have offered a vivid contrast to the inner chamber of the basilica which was left entirely white. Owing to their condition, the subjects represented in the atrium are now difficult to determine; on the low crimson dado we dis-

tinguish a group of birds pecking at fruit, closely studied from nature, but used here, as so often on gravestones and in tombs, as symbols of the soul eating of the fruit of the tree of life. Immediately above the dado a series of miniature landscapes in very low relief display the theme of the "sacred grove," with tree and pillar enclosed within a low balustrade. These enclosures—a well known feature of sepulchral art—doubtless represent the tombs or shrines of personages held in special veneration by the devotees of the basilica. The lovely theme which is resumed in the principal chamber encircles the building as if in a ring of protecting presences. Finally, the cove of the ceiling, around the skylight, is decorated with a series of medallions and panels: among their subjects we note Maenads riding on panthers—well known symbols of the ascent of the soul; figures of Eros chasing the butterfly, in other words of Love pursuing the soul; mystical winged figures holding the vase of life, and other allegories that attune the mind to the lofty symbolisms of the beautiful stuccoes in the larger inner chamber.

Immediately in front of us as we enter this chamber are the foundations of the ancient altar. They resemble in outline the skin of an animal with the four paws extended, and it is quite possible that the altar preserves in its shape the memory of days when the living sacrifice of animals was the rule. The gaps in the mosaic pavement between the pillars and in front of them suggest that stands for statues—or more probably for candelabra—were let in here; while lamps must have hung from the chains for suspension which have left their marks on the stucco of the arches that connect the pillars. The basilica, indeed, must have needed all the artificial light which it could get, since it had no windows save the one over the door through which an uncertain light filtered from the atrium.

Altar, pillars and stands are ornamented by a double line of black mosaic the irregularity of which was possibly introduced to distract attention from the irregularity of the ground plan. The lines that run parallel to the walls are continued as far as the apse, where they turn inward again and are brought across the apse as if to mark this off from the body of the hall as a place of peculiar sanctity. The value of this dividing line is that of the altar rail between chancel and nave in a Christian church, or—to go back to Crete and to the second millennium B.C.—of the low balustrade that in certain houses at Cnossus shuts off the recess which, like the apse of our basilica, contained a priestly seat.

But the glory of the building lies mainly in the transcendental vision of spiritual experience afforded by the reliefs that cover the ceilings and the walls in such extraordinary profusion.

The supreme object of initiation is at once recalled by the bearded mask of Ocean that appears on the inner surface of the entrance wall above the door, where it stands for the watery element through which the Soul must pass on her journey to the Isles of the Blest. Then on either side of the doorway are figures of Victories; and Victories in varying attitudes, with wings folded or unfolded, with arms raised in prayer or holding wreaths, are repeated throughout the building wherever

an available space occurs, while below the shell of the apse a stately Victory with half folded wings stands statue-like on a pedestal holding a wreath for the initiate soul. This chorus of winged messengers gives us the key to the whole imagery of the basilica and seems to proclaim that initiation into the holy mysteries robs death of its terrors and is the pledge of final triumph.

The symbolic and eschatological significance of the whole decoration follows as a matter of course the figures of Eros holding torches or pursuing the butterfly; the scenes of rape like that of Ganymede in the central panel of the nave ceiling; those of liberation—for choice the "Rescue of Hesione by Hercules"—of another panel; others taken from the labours of the heroes of Greek mythology; the scenes of reunion—the "Orpheus and Eurydice" and the "Orestes and Iphigeneia" of two companion panels—these all belong to a well known



STRANGE SIGNS OF AN ENIGMATIC CULT

In the left nave is found a series of reliefs, all having a tree as a common subject; from these, authorities have been disposed to think that the religion of the shrine had some connexion with the East, where the tree and baetyl (sacred pillar) were worshipped. The gnarled pine above is united to the baetyl by a scarf.



MARSYAS PAYS THE AWFUL PENALTY OF HIS RASHNESS

Playing her flute one day, the goddess Athene caught a glimpse of her distorted features in a stream, and being disgusted thereof impulsively threw away her flute. It was found by Marsyas who discovered, to his delight, that the instrument being under Athene's spell, played of itself the most heavenly music. So entranced was Marsyas that he challenged Apollo to a musical contest to be judged by the Muses, Apollo playing the cithara and Marsyas his flute. Only by adding his voice to the music of the cithara did Apollo eventually win; and terrible was his retribution, for he had Marsyas bound to a tree and flayed alive. Such is the gruesome tale of this Basilica stucco that rebukes the foolhardiness of defying the gods.

cycle of subjects symbolising the aspiration of the soul towards the divine the suffering incident to her quest her liberation from earthly ties and her final flight towards the celestial spheres

In the same way the long series of sacred enclosures begun in the atrium and completely surrounding the walls above the dado, the scenes of preparation and of ritual discipline, the decking of altars or readings from the sacred liturgies, the doctrine of a purgatorial "katharsis" (purification) conveyed in the story of Alceste the scenes of cultus and initiation the tending of the chthonian snake and the mystic dance of the initiates, the figures interpreted as "Orantes" or prayers personified and thus made permanent, the portraits of former saints and sages introduced to help aspirants by the force of example the candelabra the vases the tables the palms the ritual hoops and tambourines and other sacred utensils—all these again recall the rites by means of which mortals might be initiated while still in this life to the bliss of the next

The leit-motif of the decorative scheme may be said to be triumph and victory but the more sombre note of impending punishment meted out to the sinner also makes itself heard Thus the punishment of Marsyas who dared to challenge Apollo to a musical contest is the subject of a long frieze where it serves as a warning to mortals not to presume to set themselves against the gods Again a scene showing girls carrying water in broken pitchers—the Danaides of later mythology—is used here as it was by Polygnotus in fifth century Delphi to represent the fate of those who neglect the succours of initiation

In order to understand all this it is unnecessary to have recourse to highly coloured theories—to represent the basilica as the seat of the fanatical religion of the Bactæ or the obscure Thracian goddess Cottyo or even as that of a Pythagorean or an Orphic brotherhood All sepulchral magery by the time of the Empire was, it is true deeply enlivened with Orphism but the subjects of our stuccoes offer nothing strange or unique, nothing that is not perfectly familiar from the contemporary art of innumerable Roman tombs What strikes our imagination and must certainly have struck that of any one who entered the basilica in antiquity, is to find so large a number of these subjects (their number is, I believe about 117) so linked together as to cover the whole building with a perfectly logical and homogeneous decoration

We are here in presence as it were of a figured chart of the adventures of the soul in her search for the divinity

As in a primitive Christian church so in the basilica the subjects represented in nave or aisles reach their climax in the grand apocalyptic vision unfolded in the shell of the apse This important composition deserves to be described in detail, especially as owing to the damaged condition of the stucco the photographs are not satisfactory



GANYMEDE IS BORNE ALOFT

Scene occupying the centre of the ceiling in page 1016 this relief illustrates the carrying off by a winged genius of Ganymede most beautiful of mortals to be cup bearer to Zeus and typifies the soul's ascent to the gods. The figures are vigorous and finished with consummate care

The foreground represents a stormy sea that beats between two rocky promontories. The one on the right is crowned by a grove of trees, in front of this a love god gently pushes forward a heavily veiled woman who holds a lyre pressed against her left side. She is in the act of descending from the rock into the sea, where a Triton holds a sheet folded boat shape in readiness to receive her. A second Triton turns towards this group blowing his horn. In mid distance, on a third lofty promontory or rock is seen the image of Apollo holding out his right hand as if to welcome the veiled lady. On the promontory on the left a male figure sits in an attitude of deep dejection.

From the first this scene has been interpreted as an allegory of the soul's voyage to the Isles of the Blest. Of the many ways of voyaging to the other

world, that by boat or ship is the commonest, and it might reasonably be supposed that the drapery held by the Triton was merely a similar vehicle of transit. On this theory the apse picture would only be the expansion of the idea already indicated by the mask of Ocean over the doorway. But the idea expressed in the apse is a richer one. I believe, than the mere voyage of the soul. Without entirely excluding this notion it yet seems more correct to interpret the quiet and stately descent of the veiled lady into the water as an act of ritual prelude to the last journey and confirming the initiate's right to a blessed after-life. Like certain great heroines of Greek legend—like Ino, Iphigeneia or the Cretan Britomartis, or again like Sappho the poetess in the older version of her death—the veiled lady descends into the sea to obtain immortality and undergoes an ordeal by water to prove her right of voyaging to meet the god of light. She holds the lyre as the sign of her salvation for the same reason that figures are shown with a lyre on innumerable Attic funeral vases where already in the fifth century B.C. its significance was that of participation in the choir of the Blessed, in fact it would be legitimate to speak of the lyre of apotheosis. And because she has been initiated the lady descends from the rocky promontory without fear certain that assisted by Love and received by the kindly Triton, she will sail in all safety to her celestial home—if we may thus paraphrase the fine euphemism *"navigare ad patriam"* used by S. Cyprian to signify death.

The man seated in deep dejection on the left, with his head resting on his hands is the soul who like the foolish virgins has neglected or failed to be initiated into the holy mysteries and who when his last hour comes sees no love god at hand to assist him nor Triton ready to convey him to a happier shore. The two contrasted episodes symbolic of the different fate that awaits initiate and non-initiate are admirably combined in a sort of Last Judgment, to serve both as encouragement and as warning to the devotees of the basilica.

To complete our impression of the rites commemorated in the stuccoes we must imagine with M. Cumont the Belgian scholar who has done so much to throw light on the ceremonial of the basilica that at certain hours a priest long robed like the Orpheus of Virgil occupied the throne of the apse and intoned in presence of his assembled flock passages from a liturgy in confirmation of their faith in a doctrine of a blessed after-life.

One question forces itself upon us in conclusion as to the ultimate fate of the basilica. Was it merely forgotten in course of time, falling a prey to the oblivion which overtook the shrines and

sanctuaries of Paganism after the closing of the temples by Imperial edict under Theodosius the Great? Or was it suppressed soon after its erection, in one of those religious conflicts which agitated the Roman Empire from the first century onwards? The perfect preservation favours the second view. Moreover, the fact that no coins, no small bronzes, no fragments of any kind whatsoever have been found on the spot induces us to suppose that the basilica was never quite finished, and though probably in use that it had not received its full complement of ritual furniture and other accessories when for some reason now unknown to us, it was closed in the same way that at Pergamum the worship of the Eleusinian gods seems to have been suppressed about the middle of the first century and not renewed until the time of Hadrian. But our basilica was never reopened, and was probably soon forgotten, for the Roman State had small use for other-worldliness and viewed with distrust any religion that exhorted its adepts to expect a life beyond, where earthly rulers and institutions had no significance.

The view adopted above as to the manner in which the religious life of the basilica probably came to an end is mainly that of the Dutch scholar, Dr. Leopold, who has supported it by solid argument. At the same time, it is only fair to add that the Italian authorities continue to hold that the basilica had been already discovered and looted at least once in the Renaissance or later, and they make previous excavators responsible for the complete lack of small objects. But the present writer knows of no example of excavators or looters making so clean a sweep of even the smallest fragment and leaving behind them no trace of their doings.

The Porta Maggiore Basilica is likely to occupy scholars and archaeologists for many years to come, and is certain to remain a goal of pilgrimage for all who care for the art and religion of ancient Greece and Rome. Few pagan temples or shrines retain in so high a degree their original atmosphere of sanctity, unsullied even by the inevitable intrusion of the modern element. The long modern staircase from the new entrance on the Via Labicana forms an approach scarcely less impressive than the now partially blocked-up corridor, the electric light, skilfully disposed and manipulated, throws the subjects of the stuccoes into a sharp and almost dramatic relief which the ancient worshippers here can scarcely have known, while the intermittent rumbling of the trains overhead, simulating as it were the peals of distant thunder, contributes to the feeling of awe and mystery that envelops the visitor to this strange and secret edifice beneath the ground.

Ancient Arts and Crafts. X.

Viking Ships: Survivals of 1,000 years

By A. MacCallum Scott

Author of "Beyond the Baltic," "Suomi, the Land of the Finns," etc.

OSLO, the capital city of Norway, lies at the head of a long, low-shored fjord, running up northwards from the narrow straits which form the entrance to the Baltic. Round it lies much of the most fertile land in Norway. This sheltered northern water, with its many islands and natural harbours and its safe landing beaches, was known to the Scandinavians of old as the Wick, or Vik, and the race of sailor adventurers who were bred on its shores, and who issued forth in the eighth and ninth centuries to make their name famous and feared on every shore of the civilized world, were known as the Vik-ings. Here was the cradle of one of the strongest and most enduring elements of the British race. Here were bred the instincts and the ideas, here was formed the character of the race which was first to threaten Roman civilization with ruin, and afterwards to transform and rebuild it into that quite different thing which we call Western civilization, the ruling force in the world to-day.

In the Viking Ship Hall at Bygdøy, near Oslo, are preserved the remains of three veritable Viking Ships, ships which a thousand years ago, may have borne settlers to Iceland, or harried the coasts of Britain and France, or borne the Varangian adventurers up the Neva

to Novgorod to join Rurik in his conquest of Russia. In one warriors' shields are arranged, one overlapping the other, along the gunwale, in full war trim. All are frail with age. Some of the timbers have been broken. The masts have gone. But each is a ship as we know a ship.

The dug-out canoes of three thousand years ago which have been recovered from the silt of

Clyde and others of our great rivers are but floating logs. The ancient Nile boats, as depicted on the monuments, and of which facsimile models have been found in the tombs of Egypt, have a land-lubber look about them. But these Viking ships were made to battle with wind and waves on the outer ocean, and to carry men's lives on the waste of waters. That gull-like shape, those graceful lines for cleaving and skimming, are as different from those of the Nile craft as a Gothic cathedral is from a wooden hut. These forms were not invented by accident or by caprice. They lay embedded in the structure of the universe, and were inevitably evolved as the resultant of the forces of wind, water, and timber. The principles of naval architecture were discovered by the same northern race which gave us the principles of Gothic architecture, and much else that is fine.

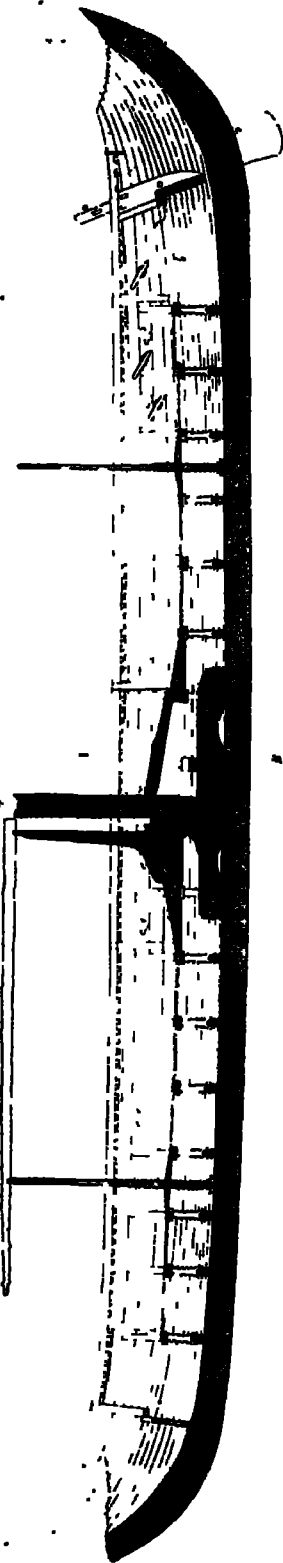
These extraordinary relics of antiquity have



ANIMAL'S HEAD FROM THE OSEBERG SHIP

The treasure in the shape of wood carving found aboard the Oseberg ship forms the most wonderful collection of Viking art discovered, and this animal-headed post, with its intricate pattern, is the choicest of the whole find. Many of these posts were decorated with silver plates on eyes and teeth, and studded with silver nails; and a detail-photograph showing the tremendous complication of the carving on one of them appears in page 1029.

Courtesy of the Oslo University



SECTIONAL DRAWING OF THE BURIAL SHIP OF A VIKING, DISCOVERED AT GOGSTAD

Of the three Viking ships preserved in Bygdoy, the largest is known as the "Gogstad" ship, from the place of its discovery on the shores of the Oslo Fjord. Although no such wealth of art and carving were discovered aboard as in the case of the "Oseberg" ship, it is larger and more seaworthy, having overall measurements of 77 feet long by 16½ feet wide, and 6 feet deep amidships, the length of the keel is 57 feet. As shown in this section, it is clinker-built, pointed fore and aft, and rudderless, being steered by a single oar on the starboard side; the mast is amidships, well and strongly steeped, and in addition there are benches for thirty-two rowers. The ship can have drawn very little water, and could be easily beached. The burial-chamber was added immediately aft of the mast.

After a drawing by Nicolaisen

been preserved in precisely the same way in which Tutankhamen's funeral furniture has been preserved in his tomb in the Valley of Kings. Each was discovered in the "How," or tumulus, of a great Viking leader. He lived by the sea. His ship was his chariot of war, his throne of state, the key that unlocked the treasure house of far distant shores. It was the most precious part of his material wealth, as personal to him as his horse or his dog or his sword. The use of it called forth a skill and mastery of which he might well be proud. He loved it like a living thing that knew his will and answered to his touch. When he died it was meet that he rode to Valhalla, to the Hall of Heroes, in the ship which gave him the freedom of the seas, and with his other choicest treasures ranged round him.

There were two ways in which the dead Viking might ride to Valhalla: by sea or by land. The more picturesque was by sea. The body was laid in state in the ship, and a pyre of faggots was raised round him. Then, with a favouring breeze from shore, full sail was spread, the faggots were kindled, and the vessel was launched forth into the open sea towards the sunset. It was the Viking's last voyage "West Over Sea," into a more unknown country than he had ever explored during life. No sacrilegious thief could ever rob that hero of the treasure he took with him. The smoke of his pyre drifted across the wine-red sky of the northern sunset, and the watchers discerned in its shapes the figures of the Norns, who sit by the tree Yggdrasil spinning the destinies of men, and the Valkyrias, the Riders of the Storm, the Choosers of the Slain.

The other way was by land. It was known as Ship Burial. Instead of being launched to sea the ship with its mortal freight was dragged high on shore and a pyramid of earth and stone piled over it to keep it secure from violation. This was the Viking's How, in the heart of which, like the trolls beneath the roots of the mountains, it was hoped he would enjoy his treasure for ever.

On, or near, the mound there would be erected a bautastein, or memorial stone, on which were carved some rude decorations of impossible animal figures, twisting and intertwining in serpentine fashion, and an inscription in runes. The Vikings were not a people given to writing. Their literature was handed down by oral tradition, like the chants of Homer. It was a great literature, but it was not committed to writing till centuries later. The Vikings knew nothing of pen and paper or parchment. Their only writing implement was a chisel or the point of a knife. But for many centuries there had been preserved among the Gothic races, of which they were a

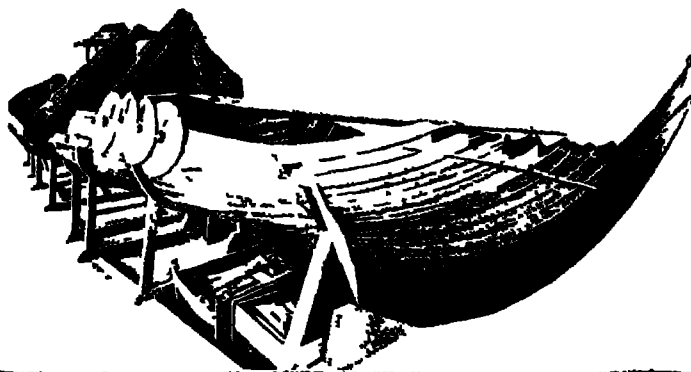
branch, an archaic alphabet. This art of runic writing was a secret known only to the initiated. The very word "rune" means mystery. It probably originated through the intercourse of early Gothic tribes with Greek colonies on the shores of the Black Sea, or with the first Roman adventurers across the Danube. These runics added a spell which guarded the sanctity of the How.

But all the magic spells of priests and sorcerers have ever failed to divert the bolder spirits from buried treasure. The tombs of Egypt were rifled almost in the generations in which they were erected. Evidence has been discovered which indicates that even the builders left secret passages and traps whereby they could obtain an entrance afterwards without disturbing the seals which had been placed upon the ostensible entrance. And in the far north there were men bold and reckless enough to brave all the terrors of this and the next world for the sake of plunder. Even stronger than the lure of treasure

was the lure of a famous weapon. To become possessed of the sword of a great Viking was to secure a talisman of victory.

Hroar, son of the Jarl of Gautland, we are told in the Hardar Saga, made a vow that he would break the grave mound of Soti the Viking. "A great vow," said the Jarl, for Soti while alive was a mighty troll, and a greater one by half now that he is dead."

But Hord, and Geir, and Heli swore to accompany him. They reached the mound early in the day, and by evening they had dug through to the timbers of the ship. But in the morning the mound was whole again and this happened the



SHARP, ADVENTURE-QUESTING LINES OF THE GOGSTAD SHIP

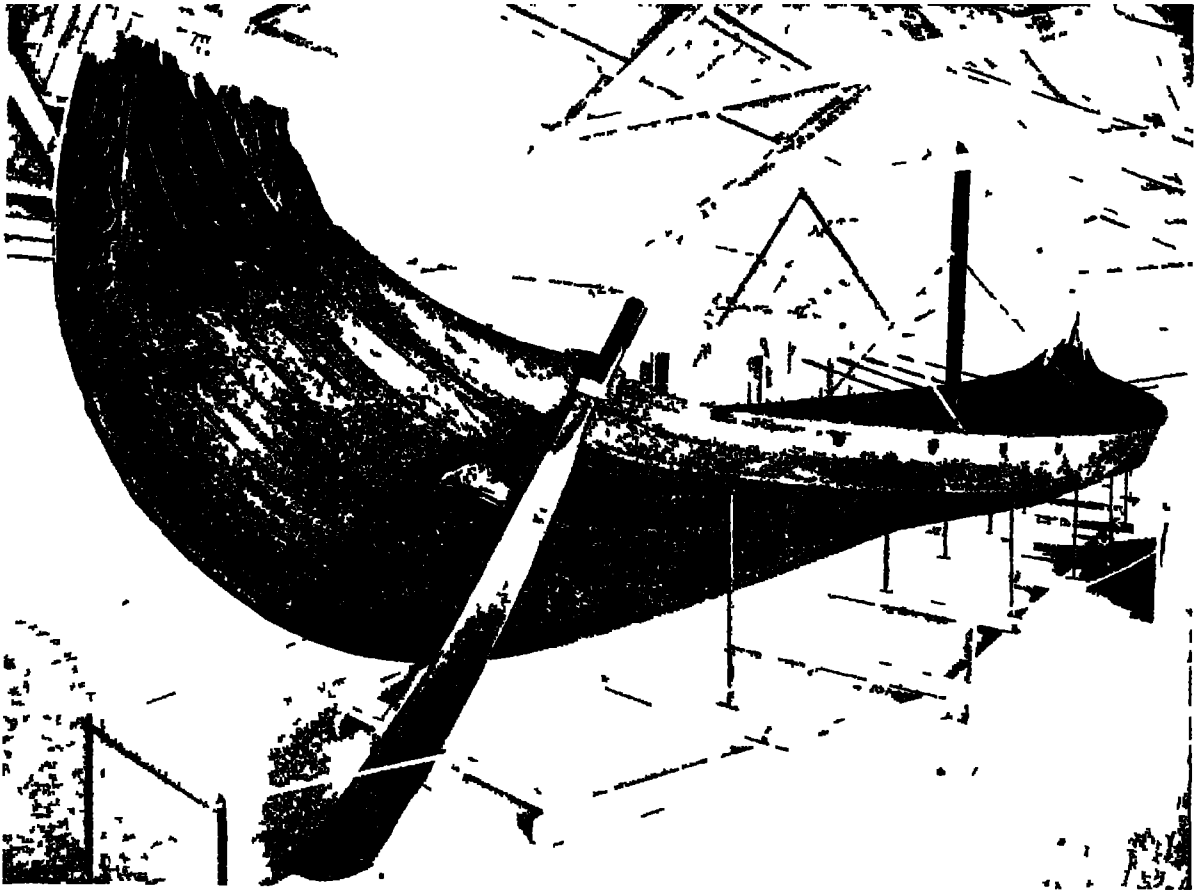
At Bygdoy may be seen the remains of three Viking ships—the Oseberg, the Gogstad and the Lunde. This photograph taken when it was housed in a shed at Oslo, is of the Gogstad ship, which is the best preserved of the three. It is not so richly adorned as the Oseberg vessel, but then it was intended for stern battle with the tempests of the outer seas. Inset above is a view of the opposite side, showing the warriors' shields which were discovered on board.



STERN VIEW OF THE OSEBERG SHIP AFTER MONTHS OF PATIENT EXCAVATION

As so often in other cases, we have to thank the burial customs of the past for the discoveries in Norway that have told us so much of the early art of navigation. According to one practice, the dead Viking was buried inside his own ship, dragged on shore, and completely covered with a great tumulus or "How," under which the age-old timbers are sometimes wonderfully preserved. The Oseberg ship here illustrated, after being unearthed but before its removal piecemeal for reconstruction, was discovered thanks to the enterprise and curiosity of the owner of the land; in 1904 the work of excavation was taken in hand by Professor Gustafson, but it was not until 1907 that the entire ship was restored and exhibited.

Courtesy of the Oslo University



THE OSEBERG SHIP PIECED TOGETHER IN CAREFUL RESTORATION

What so marks the Oseberg discovery is the mass of priceless wood carving found on board a large proportion of which is an integral part of the ship itself. An excellent example of the type of workmanship is provided by these mythic monsters and runic scrolls on the high sharp pointed stern. The skeletons discovered in the burial chamber were those of women, and it seems that the ship was rather for state journeys of the queen than a deep sea vessel of a Viking ocean wanderer. The original position of the burial chamber is marked by an outline framework of light poles.

Oslo, Norway

next day also. A wise man gave them a spell to overcome this difficulty. On the fifth day they forced an entrance. "Hord bade them beware of the wind and stench which issued from the mound, and stood himself at the back of the door while it was at its worst. Two of the men died suddenly with the bad air which came out, through being too curious." Hord then ventured in alone, for none of the others durst accompany him at first. In the side-chamber he saw a ship with treasure in it, and at its stern sat Soti, terrible to look upon. Hord made to seize the treasure, but Soti sprang upon him. Soti gripped so hard that Hord's flesh ran into knots but when the light fell upon him he lost all strength and fell to the ground. Hord took a gold ring off Soti's arm so great a treasure that it was said that never had so good a ring come to Iceland. He took also Soti's sword and helmet, both of them great treasures. The Hovs which have been opened in recent times proved that there is much truth as well as embellishment in this saga story.

Three Viking ships are preserved at Bygdoy, near Oslo, the most complete is known as the Gogstad ship. It was taken from a How at Gogstad near Sandefjord on the western shore of the splendid Oslo Fjord or Vik. It had been dragged high above the sea level, and lay with its prow pointing seawards ready for the last adventure. Its excellent preservation is due to the fact that the mound piled above it consisted of blue clay which stuck close and kept out the air. It is approximately 77 feet long by 16½ feet wide, and 6 feet deep while the keel is 57 feet long. It is seated for sixteen benches of oars two oars to each bench. This was not one of the largest ships. At a later period Olaf Trugvason built the 'Long Serpent' with thirty benches of oars. But in ships like this the Vikings were not afraid to steer out into the open Atlantic with no guide but the sun and the stars. They circumnavigated the Mediterranean, they colonised Iceland and they visited the distant shores of Greenland and America.

The Gogstad ship is clinker built, plank

overlapping plank. It is shallow bottomed for easy beaching and for navigating shallow waters. Caesar when he first launched a fleet on the English Channel found that the northern sailors could outmanoeuvre him for this reason. Both the prow and the stern are high and sharp pointed to meet and divide the rolling billows of the Atlantic or a heavy following sea. The shelving bellying sides enable it to skim the water like a yacht. It is capable of high speed. These lines are the result of long experience in the arts of navigation and of shipbuilding. The builders of this ship thought of more than floating and drifting. They did not shun the open sea like the ancient coasters of the tideless Mediterranean waters.

Besides the thirty-two oars there was a single mast firmly and securely fixed and a large solitary square sail. The Vikings had not yet mastered the art of tacking which has increased so enormously the command of the sailor over his ship. When the wind was favourable they sailed straight ahead. When it was unfavourable or when there

was a calm they laboured at the oars. The steering was done not by a rudder fixed at the end but by a single broad oar slung over the right-hand side of the ship near the stern. This was the

Stjornbord or steering side from which the nautical term of starboard still in use, was derived. An exact replica of this ship was built for the Chicago Exhibition, at the end of the nineteenth century and was sailed by descendants of the Vikings across the Atlantic on its own bottom.

It was with fleets of such ships that the Danes ravaged the coast of England in the ninth century. King Alfred was the first of a long line of English seamen who realized that the security of England must be maintained at sea. He took into his service some of the boldest of the Norse Vikings and began to build an English fleet which in the end broke the power of the Danish invaders. One of these Vikings was Othere, who dwelt northmost of all north men in Hælgoland, or Norway. Alfred himself in good Anglo-Saxon has preserved an account of one of Othere's Viking



MAST OARS AND FORWARD DECKING OF THE OSEBERG SHIP

In such shallow bottomed vessels as the Vikings used the mast had to be strongly secured at the foot. This photograph of the Oseberg ship shows much the same arrangement as may be seen in the section of the Gokstad ship in page 1024. Three of the oars may be seen on the right resting in the tholes. There were fifteen a side. Their length varies from about 12½ to 13½ feet according to their position in the ship and there are still faint traces of painting on the blades.

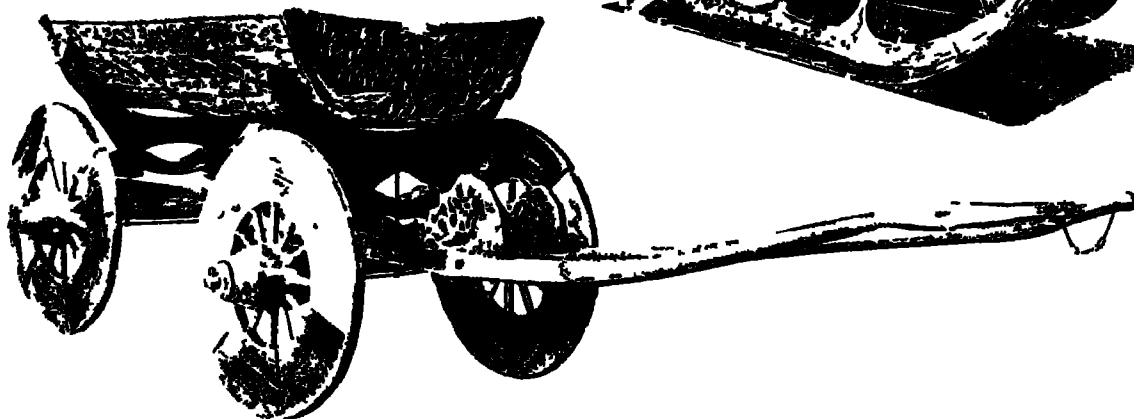
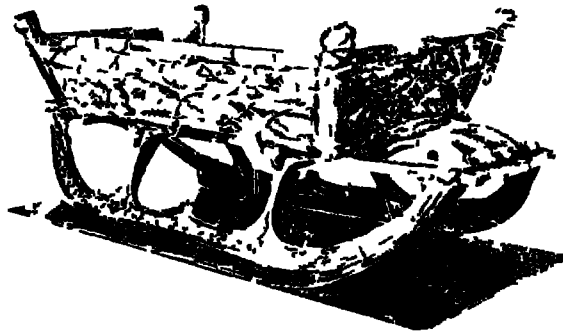
Courtesy of the Oslo University



The ends of the queen's bedstaff were carved in the shape of an animal's head with neck bent backwards. The entire composition, however, owing to the openwork device with which it is pierced is very complicated and hard of interpretation.



A photograph in detail of the carving on an animal-headed post showing the grotesque conceits of the Viking artist in wood.



A UNIQUE COLLECTION VIKING ART IN CARVEN WOODWORK

Many objects were found on board the Oseberg ship, among them being a little iron anchor, the earliest yet discovered of this material from Viking days—a circumstance which allows us to date its building in the neighbourhood of A.D. 800. But at once the most striking and the most archaeologically important of the finds were numbers of carved wooden objects, part of the funerary equipment of the queen to whom the burial belonged. There must have been a notable school of artist at Oseberg to produce such treasures. A wooden wagon was the most important item, the monsters' heads with which it swarms probably had some magical meaning. Above, a sledge, the carving is so similar to that of the post on page 1023 that they have been attributed to the same craftsman.

Courtesy of the Oslo University

voyages "Othere told his lord, King Alfred," that he sailed round the North Cape, into the Arctic Ocean, and along the northern coast of the land of Lapps and Beormians, as far as the river Dvina. He described the reindeers, and the whale hunting, and the walruses "with noble bones in their teeth," of which they brought home specimens to the King. This would be about A.D. 890. For more than a thousand years the Viking spirit of Othere has animated the British Navy.

In all these thousand years ship building has not materially departed from the lines exemplified in this venerable ancestor of the British Navy. In splendid prose ("Harbours of England") Ruskin has recorded the emotion which the sight of a boat stirs in the average Englishman. "Of all things, living or lifeless, upon this strange earth there is but one which

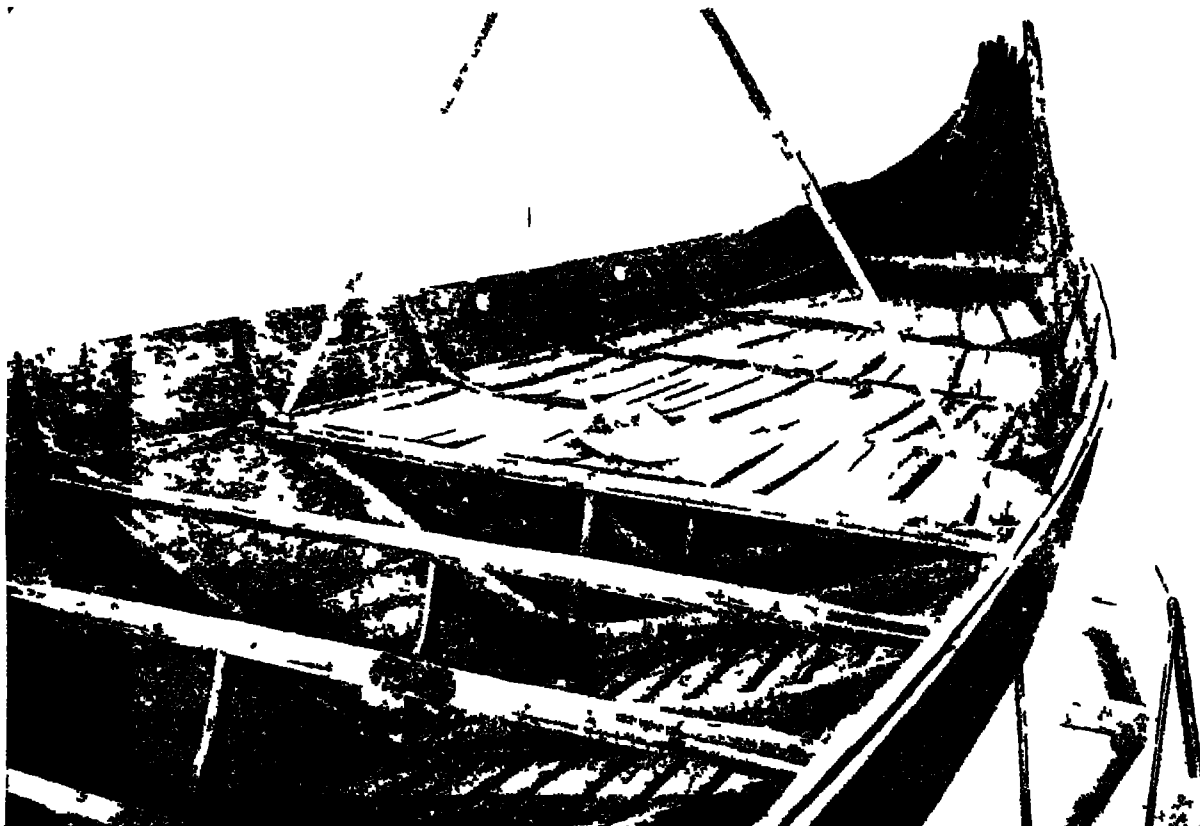
having reached the mid-term of human endurance on it, I still regard with unmitigated amazement.

One object there is still which I never pass without the renewed wonder of childhood and that is the bow of a boat." It is marvellous and exquisite in all its forms from the simple fishing boat to the fully rigged merchant ship. But "take it all in all a ship of the line is the most honourable thing that man, as a gregarious animal, has ever produced. Into that he has put as much of his human patience, common sense, forethought, experimental philosophy, self control, habits of order and obedience thoroughly wrought handwork, defiance of brute elements, careless courage, careful patriotism, and calm expectation of the judgement of God, as can well be put into a space of 300 feet long by 80 broad." It is all there in smaller space in the Gogstad ship.



WOODEN BUCKET

Bronze hoops and an enamelled handle enrich this little bucket from the burial chamber of the Oseberg ship.



FRAIL ADVENTUROUS VESSEL FROM THE BURIAL MOUND OF A QUEEN AT OSEBERG

This photograph of the Oseberg ship shows the arrangement of ribs, stringers and deck planking, the view is towards the stern, and on the starboard side may just be seen the handle of the steering oar, half obscured by the framework pole of the burial chamber. The object lying on the deck is a birling scoop. In barks not much stouter than this, pitifully frail to our modern eyes, the Vikings of old ventured forth on voyages which sometimes ended as far afield as the coasts of Greenland, and even of America.

Courtesy of the Oslo University

The Wonder Cities. XXVIII.

Corinth: The Wanton City

By the Editor

MISTRESS of the two seas and of the highway between northern and southern Greece, Corinth shone above the blue waters of the great gulf in a climbing splendour of silver and green foliage, tawny fanes and colonnades. Framing her fortified western port of Lechaion were argent olive orchards, gardens and vineyards. There, running from the sea plain, her white limestone ramparts narrowed into a long neck, and then spread outward and upward about the glistening city on a mountain slope, and finally reached round the precipices of the temple-crowned peak of Acro-Corinth.

If Corinth was a fine picture from the sea, the world of Hellas was a beautiful panorama from her citadel. Northward over the Corinthian gulf stood the majestic mass of Parnassus, wrapped in its mantle of snow till late in the spring. The west was enclosed with the white-peaked range of Arcadia, the south with the bleak mountain wall of Argolis. Eastward, over the island strewn Saronic gulf, the rival city of Athens lifted her Parthenon dimly against a misty blue crescent of hills. Nearer at hand, in the same direction, lay the source of Corinth's splendour, that little neck of land linking southern and northern Greece and dividing the Adriatic waters from the sea of Asia with all its water-borne wealth.

Down the broad way between the ports, and along the heavily paved Isthmus road three and a half miles long, traffic of an extraordinary variety was borne. Beside the trains of wagons bringing from the eastern port island wines and Black Sea wheat, and the pack mules laden with Orient fabrics and Attic marbles, streamed an opposite current from the western port carrying Italian and Sicilian products, as well as Corinth's own fine jewelry, pottery and statues in bronze. Yet both these rivers of Isthmus commerce were of no remark compared with the spectacle of ox teams and gangs of men engaged in rolling ships overland from one sea to the other. In those days there was scarcely need of a canal through the Isthmus. Merchant ships were generally about the size of fishing smacks, and so easily beached that it was not difficult to "roller" them along a well made tramway-like road from shore to shore.

Thanks to their strain of Phoenician blood, the Corinthians had close business connexions with

Tyre and soon rivalled her in shipbuilding. For centuries they dominated the rest of Greece in marine power, and by their invention about 700 B.C. of the 9-knot war galley, the trireme, they became for a time warship builders to friendly states, and masters of the sea. It was by intellectual rather than by material power that the Athenians eventually surpassed them. They devised a system of real naval tactics in place of the Corinthian-Phoenician military method of grappling ship to ship and fighting with archers and boarding spearmen. The Athenian way was to leave the battle to helmsmen and rowers, who turned their large warships with bronze rams into missiles and by skilful manoeuvring crashed into the sterns or sides of hostile ships, often first crippling them by sheering swiftly through their ranks of oars.

In spite of their claim to have originated Greek tragedy, loosely based on the fact that a wandering Lesbian poet gave some choral performances in their market-place, the Corinthians were best at making technical improvements upon the original achievements of other men. They were perhaps the one race in contending Greece that thoroughly disliked warfare, loved mechanical industry and honoured common craftsmen, an attitude of mind that fitted their strong business sense.

Life in Corinth must have been happy in a good sense, and it was probably "gay" in a bad one. Its long untroubled prosperity was due to the fairness and respect with which the working class were treated under both aristocratic and tyrannical rule. The voluptuous gaiety of Corinth that made her name a byword in Greece sprang from the Semitic character of the goddess of love, whose noble Doric fane in the citadel was one of the finest monuments of early Grecian architecture. But there was little that was pure about the rites of this Astarte, who in name and appearance had been made an armed Aphrodite and who was said to be served by a thousand courtesans whose numbers were increased when the city was in peril. In a lower suburb, the Kianeion, there stood a sacred cypress-grove containing a temple to the Black Venus, and, hard by, a cynical monument to the notorious Lais, represented by a lioness holding in her claws a stricken ram—the haunt of the voluptuary and the vicious. Those same Phoenician abominations that infected

the soul of Israel corrupted the character of the Corinthians. But they were saved in the historic period at least from the dreadful kind of human sacrifice attached to their other Punic idol the fire-god Melkart who softened into a kindly deity, had a temple that was one of the sights of the Isthmus. He was not the most popular male

divinity in this centre of seamen merchants Poseidon, the Lord of the Sea whose glorious sanctuary also rose by the eastern end of the Isthmus fortifications was the favourite god. In his honour was held every two years the famous national festival of the Isthmian games, with athletic contests chariot-racing and naval display



AGE-OLD WELL BENEATH THE ACROPOLIS OF CORINTH

Slight as are the remains of ancient Corinth, and buried for the most part beneath ruins of the Roman period, certain spots were too bound up with old tradition to be obliterated such as the city-fountain Peirene in the foreground that still supplies Corinth with water in spite of five successive building periods which may be distinguished on the site, the apses were added by Herodes Atticus. The shallow steps behind are the beginning of a road to Lechaion, while the remains of an ancient temple crown the Acropolis hill.

Photo by Underwood Jones Service



TIME-SCARRED REMNANTS OF CORINTH'S TEMPLE TO APOLLO

In a dominating position on the temple hill, as may be realized by a glance at the opposite page, are still standing seven monolithic columns of an ancient fane with portions of their entablature; their early Doric style, and the closeness with which they are set together, enable us to date the temple in the seventh century B.C. Each column is nearly 24 feet high and 6 feet wide at the base, and has twenty flutes; and inspection of the foundations has shown that there were fifteen to a side and six at each end.

that attracted multitudes of Athenians and other Greeks, contributed to the spirit of Hellenic unity and helped to glorify Corinth herself.

The strict Spartans, though for long connected by foreign policy with the Corinthians, seldom sent their young men to compete at the Isthmus. They kept their finest warriors remote from the city of the Black Venus; but later, when subtle Corinth, having employed Sparta to crush Athens, used Thebes to weaken Sparta and so laid Hellas open to the Macedonians, Alexander the Great selected the stadium of the Isthmus games to announce himself as leader of Hellas and explain his design of invading Persia. Here likewise the Roman afterwards proclaimed the independence of the Greek states. To Corinth, under Macedonian rule, the opening up of Persia and Babylonia brought more trade. Her freemen, numbering from 12,000 to 20,000, were then reported to possess some 460,000 slaves. Most of these appear to have been employed in Tyrian fashion in the factory production of trinkets, table vessels of fine metal, bronze castings of statues and exquisitely

dyed fabrics. The destruction of Tyre by the Macedonians was a great gain to her. Her novel style of late Corinthian architecture, the motif of which was devised by the architect Kallimachos on seeing an acanthus plant twined about a basket, took the Macedonian taste, and was spread by them from the Nile to the Tigris and into Central Asia. It was really only a florid modification of the Ionic, derived from the Egyptian palm-leaf capital, and was not favoured by classic Hellenic taste, but it captured the more barbaric minds of both Macedonian and Roman.

The Corinthian was highly practised in the business of commercialising art. He was expert in standardising Grecian things, as the Phoenician founders of his city had been in popularising the original work of Egyptian and Cretan artists. "Corinthian" as an adjective descriptive of artistic quality acquired a meaning very different from that of "Attic." However, the quality it indicated pleased the taste of an enormous new public of rich semi-barbarians, so the Corinthian manufacturers and merchant shippers greatly increased

in wealth. Then it was that the voluptuous luxury of the city became proverbial. "It is not everyone," ran a Roman saying, 'that can afford to go to Corinth.' Foreign merchant shippers who did not keep control of themselves in this brilliant whirlpool of carnality were apt to lose both their freight and their ship.

When to the wealth of Corinth there was added the pride of a recovered independence in the decline of the Macedonian power, the most decadent of cities strangely put on an imposing air of warlike power. Brought by capture into the Achæan league in 243 B.C., she left most of the fighting to her more valorous allies but became, by reason of her financial strength, the most important member of the confederacy that lasted in social wars of Greek against Greek the last remnants of Hellenic vitality. When the Romans, having finished Carthage, turned to the easy conquest of Greece, the Corinthians welcomed them at first, and then, madly overestimating their strength, led the broken league to battle. What followed was one of the great tragedies of history. The last Greek army was not so much fought as hunted. After being overtaken and half annihilated by Metellus it was driven to bay at Corinth where in 146 B.C. a second Roman force under a rough soldier Lucius Mummius smashed and scattered it.

Entering the city, he used it as Scipio, in the same year, used Carthage. Every remaining male was put to the sword and the women and children were sold as slaves. All the treasures including perhaps the largest of all collections of masterpieces of art, were sent to Italy. It must be said of Mummius that he did not take one statue or picture for himself. All were handed over to the State. On the other hand such was this Roman's ignorance that he is said to have bound the shipmasters who conveyed them to Rome to replace by a new work any of the masterpieces that might be lost on the voyage!

Mummius did not despoil and level Corinth to the ground on his own authority. He acted on the orders of the Senate. Fierce old Cato, prophet of the simple, moral life and declaimer against the enfeebling luxury of decadent Greece, had recently died, and his influence was still strong upon the Romans. The fact that the interests of the Roman commercial party eager to destroy a rival, coincided with the desire of the party of moral reform decided the fate of the wanton city.

The destruction of Corinth did not save the Roman oligarchy from moral rotteness. It was the greed of money that had been incarnate in old Cato himself which corrupted the Roman character and the nobler genius of the best classic Greeks.



SITE OF CORINTH RICHEST CITY OF ANCIENT GREECE

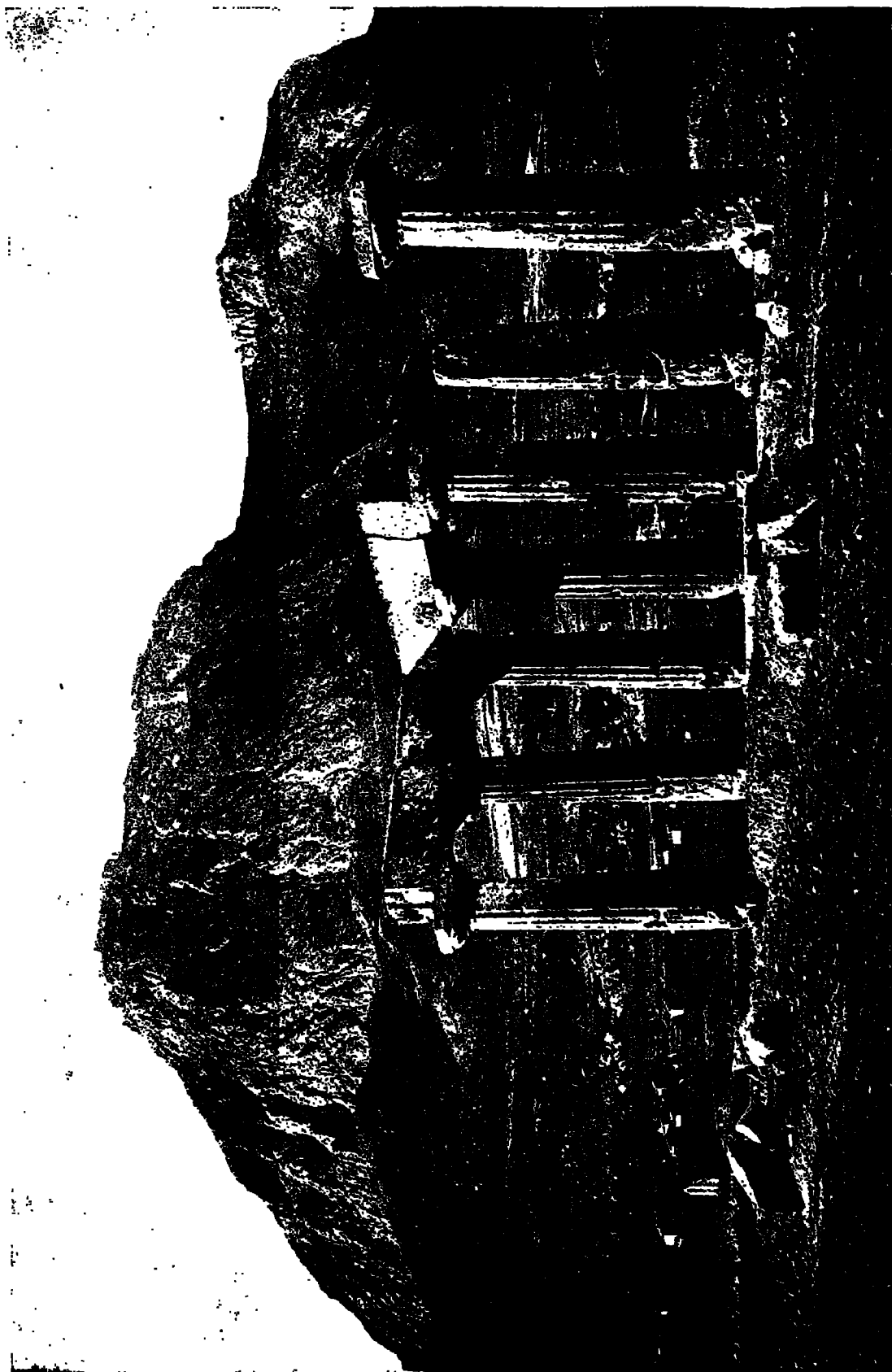
Spread out on the level ground beneath the frowning height of Acro Corinth, the ancient city early acquired a flourishing trade by virtue of her situation commanding the Isthmus, midway at once between northern and southern Greece and between the western and the eastern seas—the Gulf of Corinth and the Gulf of Aegina—she was in a fair position to control all the commerce of the region, and the wealth thus gained she supplemented by the far famed manufactures of her own workshops—jewelry, bronze and woven stuffs. In the centre here rose the seven columns which until recent excavations were all that marked the site.



WHERE ATHENE BRIDLED PEGASUS FOR BELLEROPHON

Craft of many builders has gone to the adornment of old Peirene, legend haunted water-spring of Corinth fed by another Peirene higher up the hill. The original Greek well-house consisted of six chambers partly hewn in the rock and divided by walls, but to these was added in Roman times a two-storeyed façade of arches, still later faced with marble; Roman, too, is the open-air tank to which water was led from the chambers. And in Byzantine times a rude portico of Corinthian columns was built of older materials in front of the arches; these features can all be traced above. The opposite end of the tank is shown in page 1032.

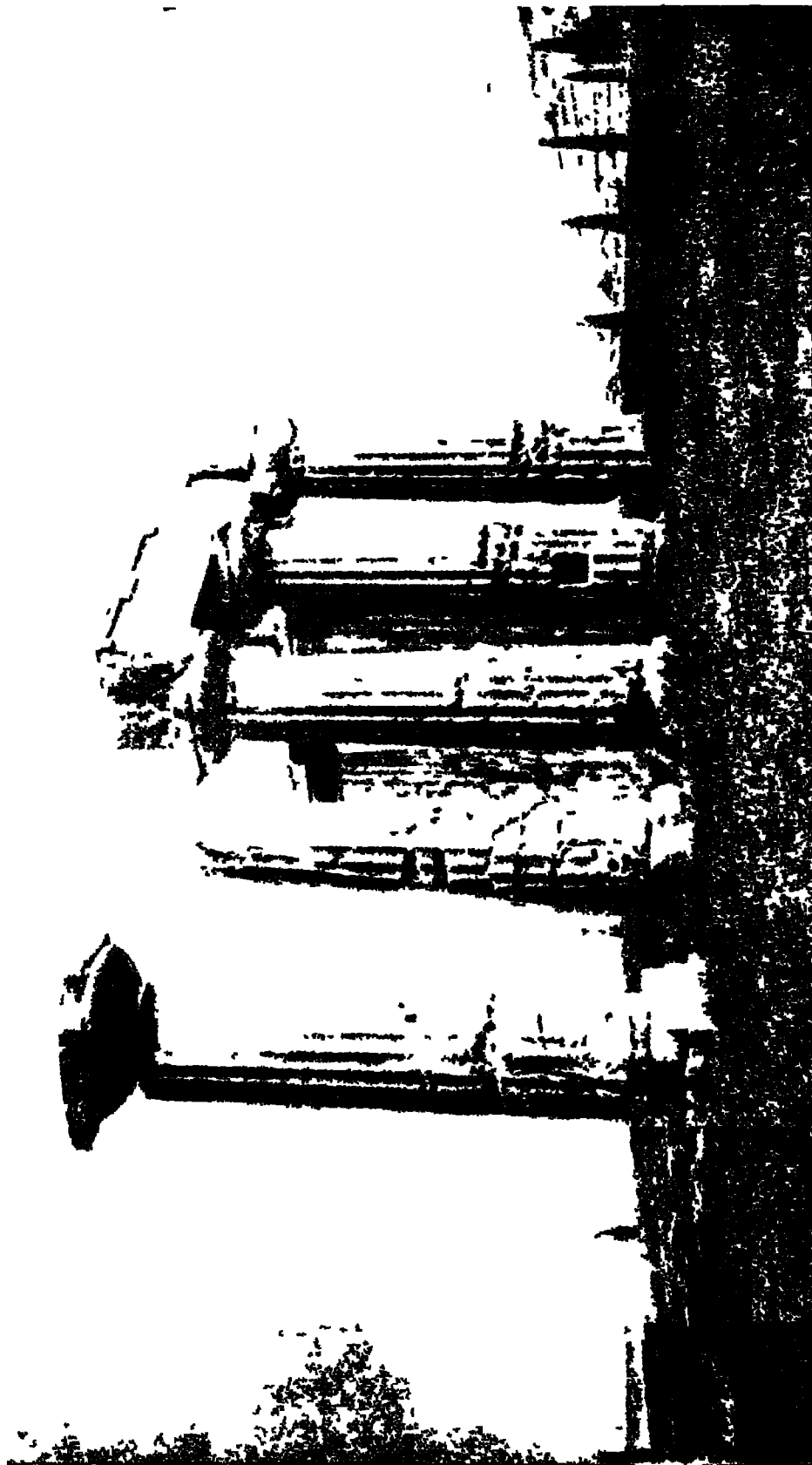
Photo by Underwood Press Service



PILLARS OF APOLLO'S FANE BENEATH THE FROWNING CLIFFS OF ACRO-CORINTH

"Korinthos" is not Greek in form, and it is probable that it belonged as a place-name to the commanding rocky bluff of Acro-Corinth (Akrokorinthos) in pre-Mycenean times before ever a city grew up beneath its shelter and was called after it. On its summit, now girt with triple lines of medieval fortifications, once stood a famous Temple of Aphrodite, goddess whose sensual sway determined the character of the city through prosperity and destruction again for a thousand years and more; now only a few blocks remain, of doubtful identification. But a wonderful view is still obtained thence, from the bare ridges that bound the Argolid in the south to the tumbled ranges of Aetolia in the far north

Photo by the Autotype Co.



STIRLING OF CORVALLIAN POLLO IN THE INVARIANT OF JUL

Not every man has the right to meddle in the affairs of his country, and he has no right to meddle in the affairs of his neighbor's country. The right of every man to be free from the interference of his neighbor is a right which is as sacred as the right of every man to be free from the interference of his government. The right of every man to be free from the interference of his neighbor is a right which is as sacred as the right of every man to be free from the interference of his government. The right of every man to be free from the interference of his neighbor is a right which is as sacred as the right of every man to be free from the interference of his government.



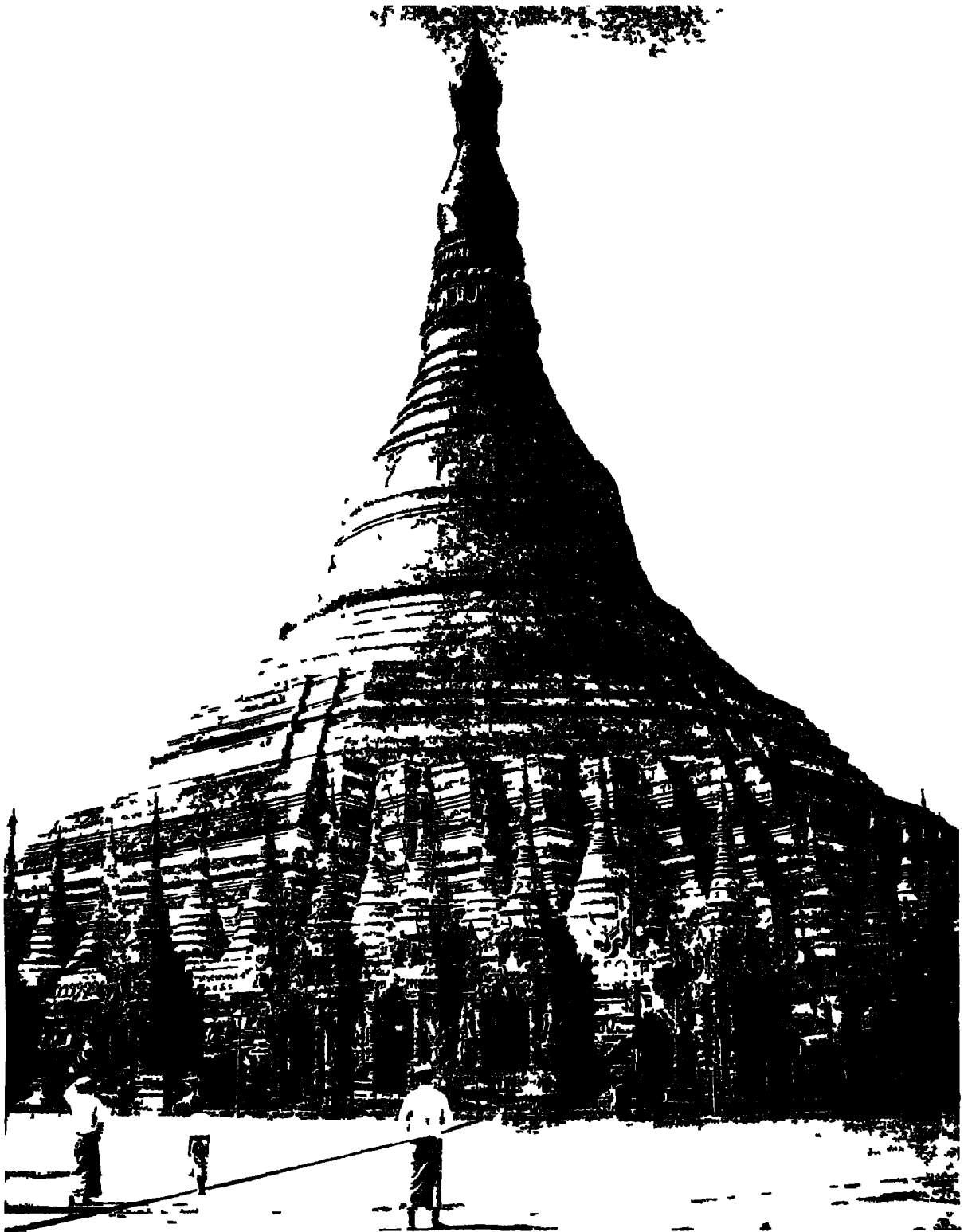
ONE OF THE MAIN APPROACHES TO THE OLD CORINTHIAN MARKET-PLACE

Here we are looking up the old porch-lined street that led from the Corinthian Agora to Lechaion—the same street which is seen sloping down to the right in page 1032; Peirene accordingly is in the mass of ruins to the left—the curved wall of its northern apse may be distinguished—while the Temple of Apollo is out of sight on the opposite side. At the end of the street lay the Agora or market-place with its buildings, while over all still looms the vast bulk of Acro-Corinth, whose summit afforded a view that even the ancients marvelled at, though not prone to praise natural beauties.

was required as an antiseptic against the decay of national strength. So soon as a general reconciliation was effected, in the age when Lucretius, Cicero, and Horace were steeping their minds in the spirit of Hellas, Julius Caesar rebuilt and re-peopled Corinth. The site, desolate for a hundred years, had then acquired a new military importance. Through the Isthmus ran the shortest, safest route to the Dardanelles and the Black Sea whose wealth of wheat, so necessary to growing Rome, was held up by Armenians and Parthians, who also menaced Asia Minor. Caesar and some of his successors thought of digging a canal through the neck of land, but, stopped by the expense of

cutting through rock, left the work unfinished, only to be carried out in the nineteenth century.

New Corinth prospered like the old city, and though peopled by a medley of foreign freed slaves resumed the foul worship of the Black Venus. It was again the most splendid commercial centre of Greece and a sink of iniquity when S. Paul founded a religious community there. In the crash of the Graeco-Roman civilization it slowly decayed, and by curious chance all its later florid architecture has vanished, leaving only a few columns of an early Doric temple thought to be that of Apollo, standing in the lower city amid the general weed-grown chaos of fallen stones.



BUILT TO CONTAIN THE EIGHT HAIRS WHICH BUDDHA BESTOWED ON SOME BURMESE MERCHANTS

The Shwe Dagon Pagoda, at Rangoon, traditionally founded in 588 B.C., has been little altered since the sixteenth century of our era and is the most gorgeous shrine in the world. After a climb of 166 feet up long flights of covered steps, the pilgrim or visitor comes upon the great platform from which the huge bell-shaped pagoda, 1,355 feet in circumference at its base, sweeps upward in a barbaric splendour of burnished gold to a height of 370 feet. The pagoda is a solid stupa of brick gilded over from base to summit, which has been raised over the relic chamber, and is crowned with a golden hti, or 'umbrella,' supporting unnumberable silver bells.

Temples of the Gods. XXIII.

Shwe Dagon : Buddha's Greatest Shrine

By Richard Curle

Author of "Into the East : Notes on Burma and Malaya"

IF one would form any true conception of the Shwe Dagon, perhaps the most famous of all Buddhist pagodas, one must witness for oneself, not only how it commands Rangoon, but all the surrounding delta of the Irrawaddy. It rises upon its little hill in the midst of the vast plain, and in its very position there is something of a symbol. Standing in the gateway of Burma, it draws attention at once to the unchanging integrity of an ancient faith. From the mouth of the Rangoon river, twenty-two miles below the city, it can be seen in its golden armour, flashing and glinting in the sun, and at night, thirty miles across the flats, it glows like a cone of fire with its five tiers of electric lights blended by distance into one.

The Shwe Dagon lies on the outskirts of Rangoon. The time to visit it to best advantage is in the late afternoon, when trams and gharris bring out the faithful in an unending stream, and when the shaven poongyis (priests) in their yellow robes and with their parchment umbrellas are making sedately for the monasteries that are dotted around. The day's work is over, the sun is just setting, and a soft haze has spread imperceptibly over the trees, over the roads, over the crowds of almond-eyed and gaily-dressed Burmese. The glamour of the East, like a rare enamel, gives to the whole scene a uniform tone of enchantment.

The range of the pagoda—for a pagoda such as the Shwe Dagon becomes in time the centre of innumerable other pagodas, of bazaars, and of every form of life and activity—rises in front of one, guarded by its leogryphs, fantastic fabulous animals, and the contrast of its age and silence against this modern world of trams and motor-cars holds, indeed, the very spirit of innermost romance.

You approach it up long flights of covered steps, lined by booths and stalls, where marketing goes on, where the sounds of laughter and haggling fill the air, where children play and dogs prowl. And then, after a climb of 166 feet, you emerge on to the great platform of the pagoda. This platform is 900 feet long by 685 feet wide. From its centre the huge bell-shaped pagoda, so perfectly proportioned that its dimensions are not immediately

apparent, sweeps up to a height of 370 feet. Its base circumference is no less than 1,355 feet.

The pagoda shines with the barbaric splendour of burnished gold; all the lower part is overlaid with pure gold plates an eighth of an inch thick, and all the top part with the finest gold leaf. Upon its summit, the hti—a sort of network embellishment whose silver bells jangle in the breeze—is incrustated with precious stones. There is something at once gorgeous and elemental in its appearance. It is as though the offerings of the world had been flung upon this golden column, whose pride could accept all and wait for more.

Let us glance back at the history of the Shwe Dagon and see how it came to be built and what its surroundings were like in that distant era. While Buddha was still alive, about 586 B.C., it is said that two Burmese brothers from Talaing, rich merchants called Poo and Tapau, were escorting 500 carts of merchandise through the forest near Benares where the founder of their religion was then living in contemplation. They made him an offering of honey, and implored him to give them something they might honour as a relic. Buddha bestowed upon them eight hairs from his head. With this precious possession they returned to Burma, resolved to found a pagoda for their reception.

At that time there was a mere mud village along the banks of the Irrawaddy where Rangoon now is, but the natural mound upon which the Shwe Dagon rests must have given them an inspiration, and they built there in the waste, with forests around, hiding in the inner shrine of the pagoda the hairs of the Lord Buddha. Tradition has it that this site had been sacred for countless years previously, and that, when digging for the foundations of the Shwe Dagon, the brothers came upon relics of Gautama's three predecessors—the drinking-cup of Kaukkathan, the robe of Gawnagong, and the staff of Kathapa.

To what extent fact and fiction are mingled in the story of the Shwe Dagon's origin, who shall say? Its history certainly goes back into the mists, and it has certainly been one of the most revered shrines of Indo-China for centuries. The

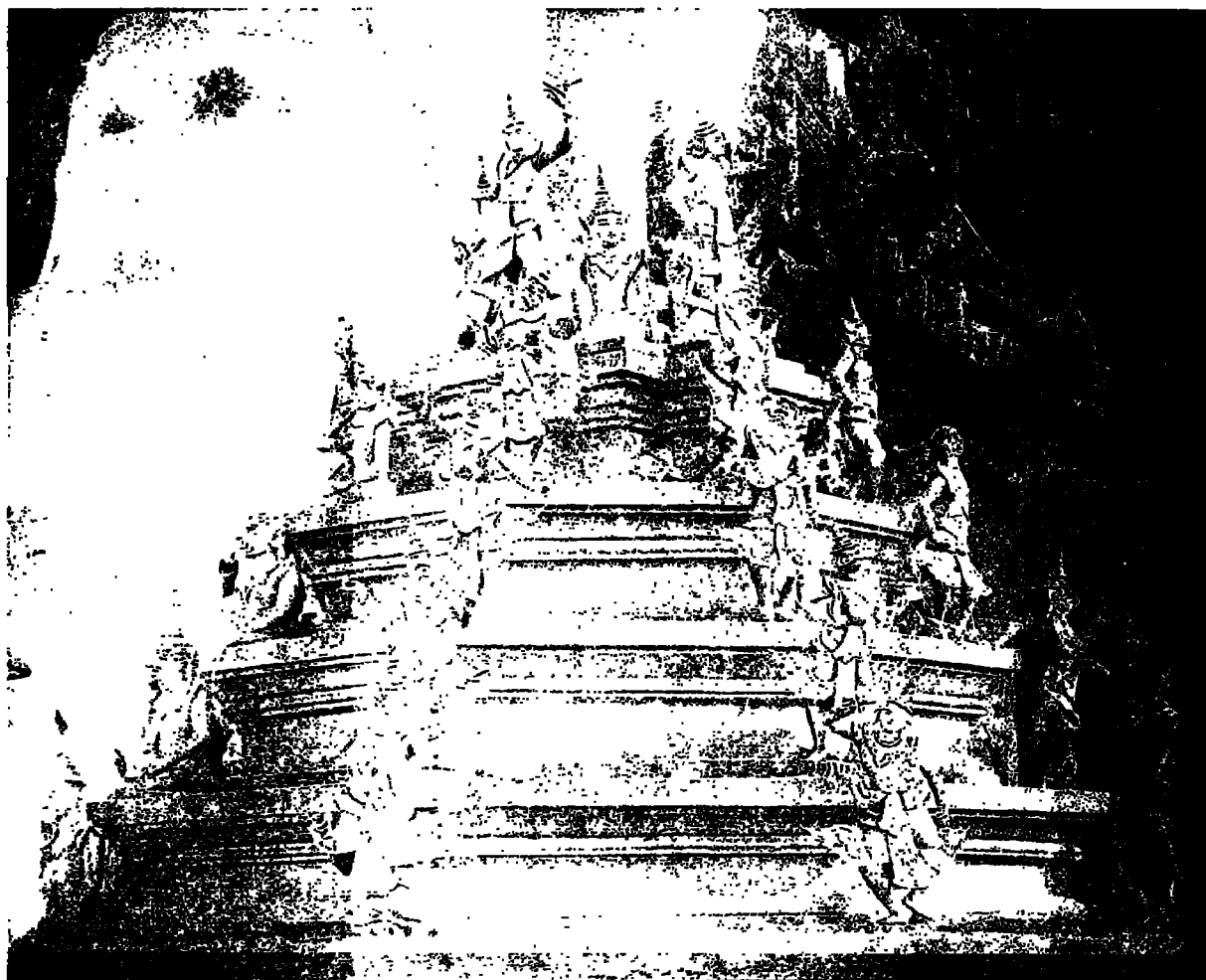
first Shwe Dagon is said to have been only twenty-seven feet in height, but it has been repeatedly re-cased and added to until its present great dimensions were finally attained in 1564.

In far-off ages the Shwe Dagon, standing there solitary in the wilderness, was in a very special sense a place of pilgrimage. One can imagine the camps of the faithful by the river, who, from perilous journeys through trackless jungles and over dangerous seas, had assembled there with pious resolve to show their devotion to the prototype. That pristine Buddhism, with the mild simplicity of its teaching and its mystical philosophy of Nirvana, came to men as a revelation after the entanglements of Hinduism and the futility of pagan rites. As years went on it spread and spread, and the Shwe Dagon, growing with its

growth, became more and more a religious centre for the Buddhists of the East.

It is this universal character which gives to the Shwe Dagon its special significance. It is, in a sense, the Mecca of Buddhism. Rangoon is a modern city, but the Shwe Dagon has given it a fame in the Buddhist world which transcends the fame of commerce and success. As you climb the steps to the platform, you may climb with the devotees of half a dozen nations. And that has been going on since long before the first European set foot in Burma.

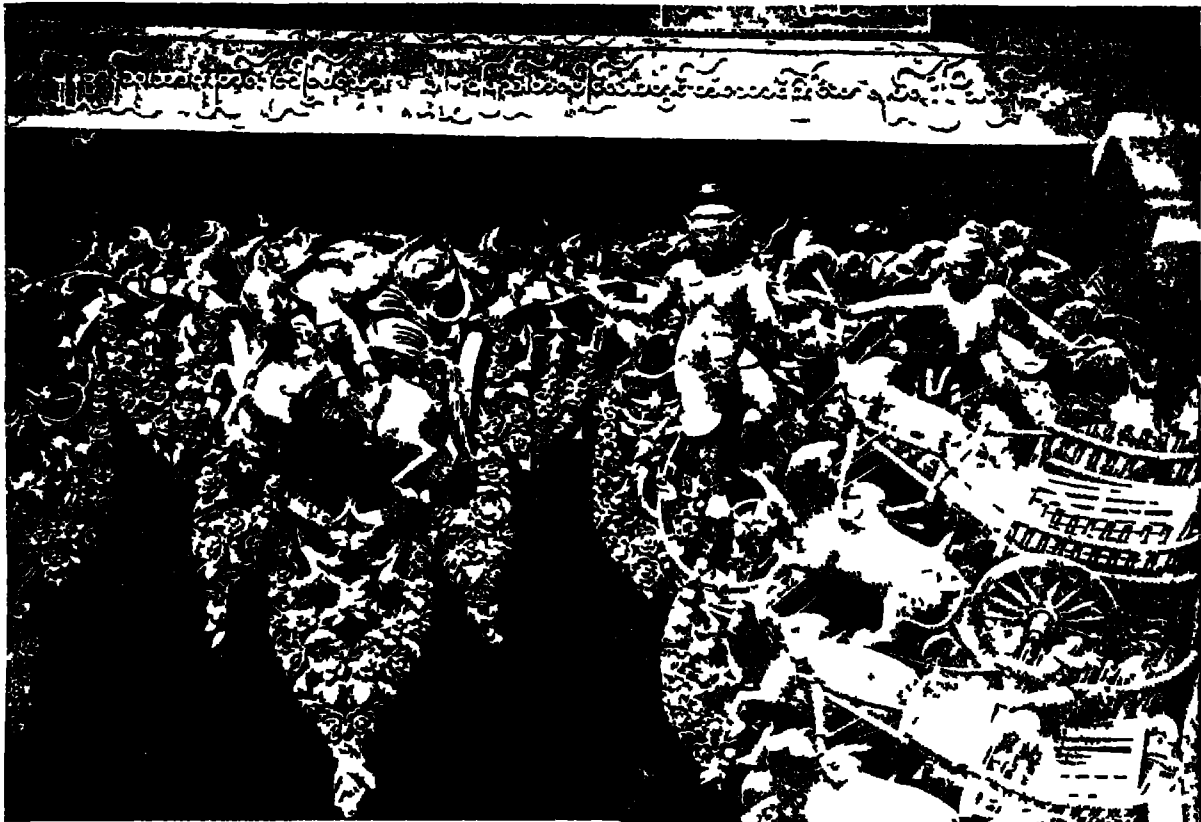
The stillness of the platform after the cheerful outcry upon the stairs is noble and touching. Here, too, life is active and dogs wander, but there is a solemn hush as in the presence of a great mystery. The Burmese do not take their



SYMBOLS OF MAN'S IMMEMORIAL BELIEF IN FAIRIES, A FAITH OLDER THAN BUDDHISM

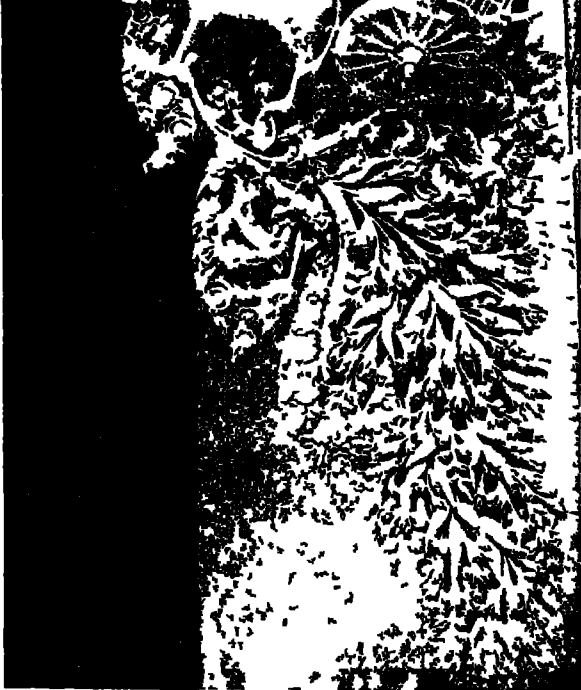
The figures in this strange group at the base of one of the innumerable sacred poles on the platform of the Shwe Dagon Pagoda, represent nats or fairies—spirits of the air, mountain, and fire—which play a big part in the spiritual life of the people of Burma.

On all occasions, before taking any action, a man consults and seeks to propitiate one or more of the thirty-seven nats.



religion sadly, but they take it seriously. There is an informality about these people wandering to and fro which might lead one to suspect that the platform was a meeting place and not a shrine, but that would be to misunderstand the heart of their creed. They come here for contemplation rather than for prayer, they come here to go away refreshed by a memory, they come here to prove the abiding influence of Gautama's teaching. Even the few persons one sees actually prostrate before the shrines are not praying in our sense of the word. They are reciting passages from the precepts of the Buddha. It is thus that they gain the peace and comfort which they crave.

These shrines, to the number of 1,500, surround the outer edge of the square platform in an amazing array of different styles. They are the gifts of individuals anxious to obtain merit, or to mark their gratitude for the gifts of health or fortune. Here one can study the type of pagoda representative of various countries where Buddhism still rules. In haphazard disorder, the architectures of China, Siam, Cambodia, Ceylon, Burma, India, and Korea jostle one another. They are in every state of preservation from the dilapidated ruin to the spick and span erection of yesterday. The dust of one powdering the fresh gilt of another. Huddled close together as they are in their dwarfed



LOVING LABOUR OF MASTER CRAFTSMEN

An example of the exquisite wood carvings which adorn the Shwe Dagon Pagoda. Upon this gorgeous golden shrine which contains actual relics of Gautama and is the most universally visited of all such pagodas in Indo-China pilgrim worshippers for centuries have lavished gifts beyond price.



Col. W. J. P. Hodd

IMAGES OF THE TEACHER IN A PATTERNED SHRINE WITH LACE-LIKE METAL WORK

Burmese craftsmanship is seen at its best in some of the shrines built around the platform of the great Pagoda. Here is the entrance to one of these; one may note the rich ornamentation of the pillars and the lace-like pattern of the screen. The effigies of Buddha, seen within, are the gifts of devout patrons. They are of all sizes, the smallest being the contributions of the needy; for rich and poor alike strive to acquire merit from these offerings. The larger the image the greater the merit it secures.

size and multiple design, they give one the curious feeling of being in a graveyard, where new tombs are pressing upon the crumbling memorials of an earlier generation.

Buddhists, it must be remembered, find their reward in building pagodas, not in preserving those that are already built. With the few exceptions of the great national pagodas, which are kept up under the guardianship of trustees, these structures are left to the governance of time, and that is why the whole of Burma is full of ruins, falling to pieces and overgrown with weeds, while new pagodas cover the ground like giant mushrooms in their whitewashed squatness. Each generation of Buddhists must declare again its belief in the cycle of change, and it is this, coupled with the fact that a pagoda is not so much a temple for a god as a monument to a man's piety, that makes them anxious to prove their worthiness by the erection of more and more pagodas.

The pagodas and shrines around the Shwe Dagon are mostly of an incredible tawdriness and trivial vulgarity. Unlike the great exemplar, they are ornate in carving and design, full of atrocious woodwork and crude coloured glass, and they look more like elaborately decorated Christmas trees than anything else. In them the sinpering figure of Buddha—for not in one statue out of a thousand has the sculptor caught any hint of the benign, calm power of the founder—in one of his three traditional attitudes, seated, standing, or recumbent, is multiplied to a bewildering extent. The figures appear usually to be made of alabaster, and some shrines contain a whole army of them. It is just as if you were observing an inferior wax-work show. Others of the shrines, again, are guarded by outlandish nats, those singular protective spirits which have been superimposed upon Buddhism—Burmese Buddhism—from far-off heathen times.

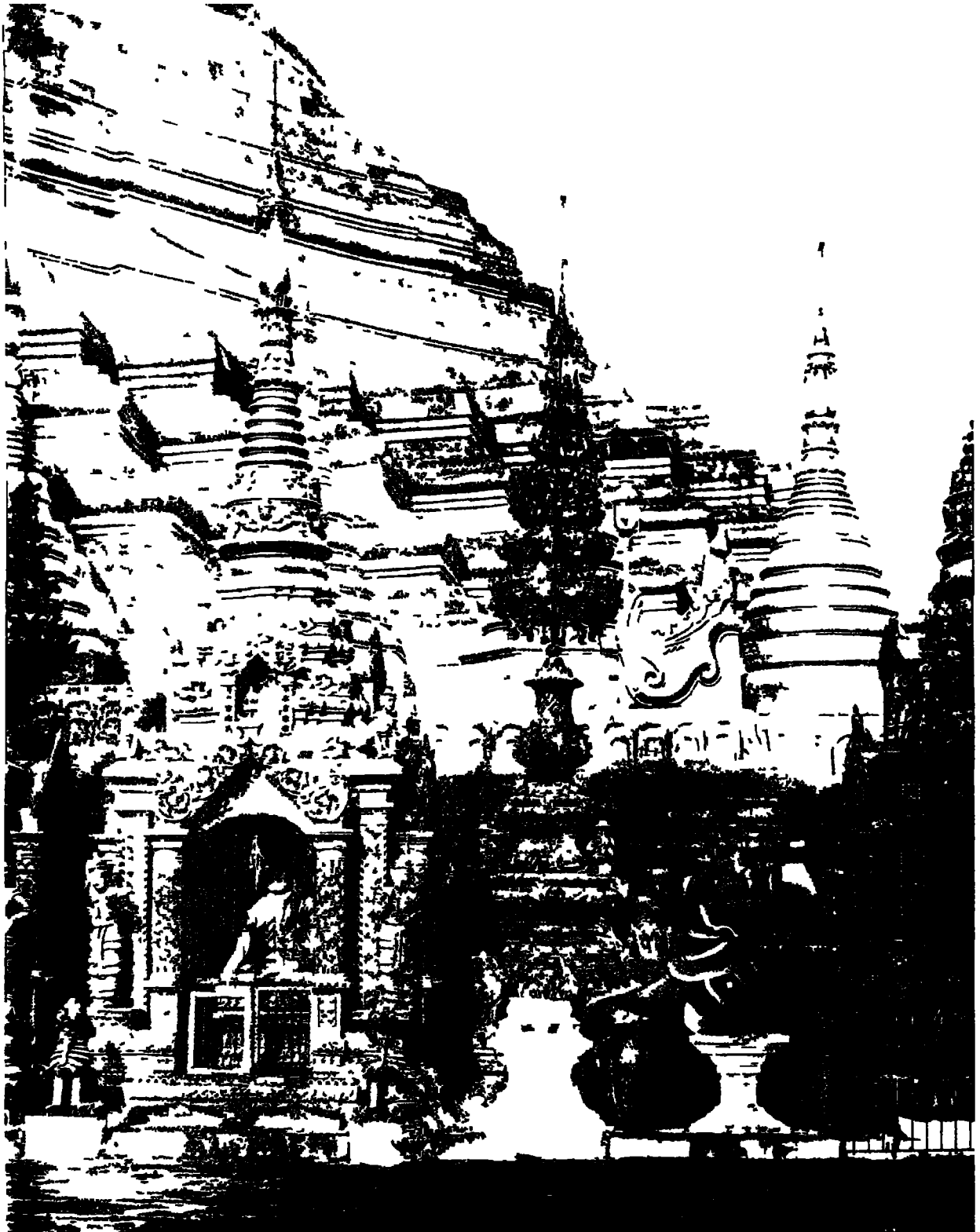
Everywhere one sees dirt and neglect. The Oriental indifference to cleanliness is painfully evident. Gazing around, one asks oneself whether the whole effect, after all, is not rather that of a fair than of a graveyard. Buddhists will not destroy life, and a few dreadful dogs, in the last stages of decrepitude and actual dissolution, are dragging themselves about amidst the waste paper and the unwashed paths. No; Buddhists will not destroy life, but they will leave it to decay as they leave their pagodas to decay. It is a tenet of religion rather than a dictate of humanity. In fact, some will go so far as to fish and let their catch pant out their breath upon the shore, thus keeping the letter and evading the spirit.

But here, as all over the East, there is endless

tascination in the multitudinous life that hems you in, that life which is so secret, so full of activities and thoughts unguessed at by Europeans, so tortuous in its burrow-like existence. The devout, as we have seen, travel to the Shwe Dagon from the far corners of the Buddhist world. They come unheralded; they look, and they pass on to the uttermost parts of Asia. Men in outlandish garb, men with sadness in their eyes, men who glance at you with silent contempt. Indeed, one must feel at times an intruder in these sacred spots. Buddhism is a religion neither anxious for converts nor intolerant of other creeds; but of recent years the Burmese, or a section of them, have come more and more to resent the custom of treating their pagodas as interesting sights for tourists. At the Shwe Dagon there is no trouble for the European if he behaves with due decorum, but there is always the offchance that some fanatical priest may take the law into his own hands and attack a stranger in that he has defiled holy ground with shoes upon his feet.

The dependent shrines and pagodas stand in serried rows, and if you would see the view from the edge of the platform, you must make your way through them as best you can. Then, indeed, you will be rewarded by the vast serenity of the spread landscape. In this direction stretches Rangoon, with the winding Irrawaddy beyond; in this, an enormous plain with hills and lakes in the foreground. The Shwe Dagon was here when nothing but the jungle and the river was visible, when all was but a wilderness, and when the unrestful energy of man had not yet changed the face of the earth; and sometimes one cannot but wonder whether it will not outlast the transient conquest, and whether Rangoon itself, with its 350,000 inhabitants, will not be finally a mere dream of the past in the ages-long existence of the enduring pagoda.

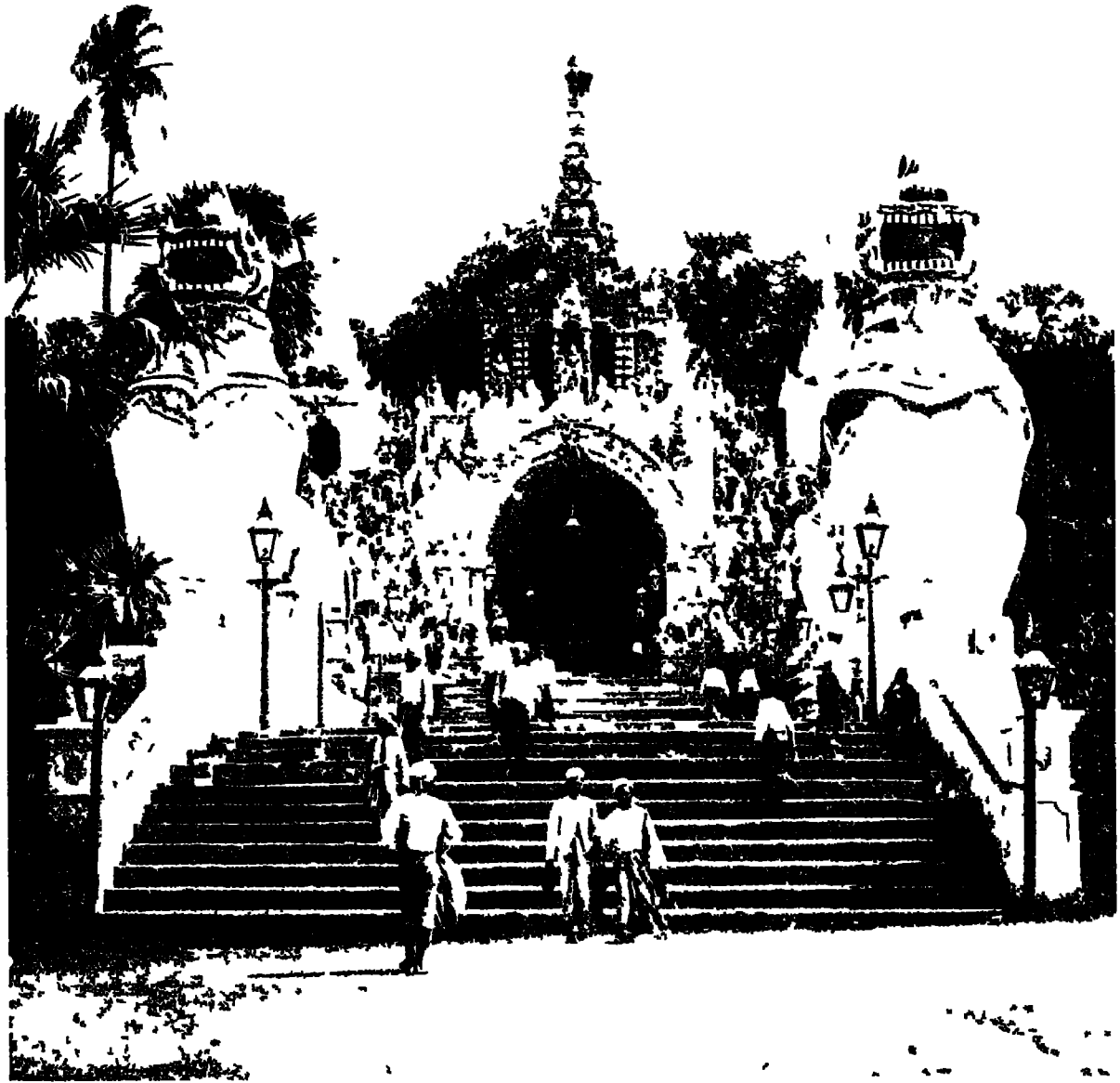
But it is time to descend the steps, where naphtha-flares are blazing in the darkening twilight. People are going up and down as before; probably at no hour of the day or night is the platform deserted, although the crowds below have thinned, and the players of the ball-game, who use their feet instead of their hands with uncanny skill, have left the upper region. As you descend, Burmese children dance ahead, pressing lotus blossoms upon you; but this charming custom is induced, like most modern things, by a hope of reward. The air is cooler and, as it were, more scented, and moving lights appear over the shrouded roads, glimmering here and there among the trees. Above you the gold of the Shwe Dagon has taken on a wonderful lemon tint, giving it an



Col. W. J. P. Rodd

MIXED SHRINES AND MONUMENTS, OFFERINGS IN THE CAUSE OF MERIT

Here are some of the shrines and minor pagodas which surround the mighty platform of the Pagoda. There are about fifteen hundred in all, many of them in a dilapidated condition, for it is a rather curious article of faith that while merit accrues to the donor putting up or on of these pious monuments, failure to keep it in repair involves no loss of merit. Much of the workmanship, moreover, of these subsidiary shrines is cheap and tawdry, the carving being of inferior quality and the coloured glass inlay garish.



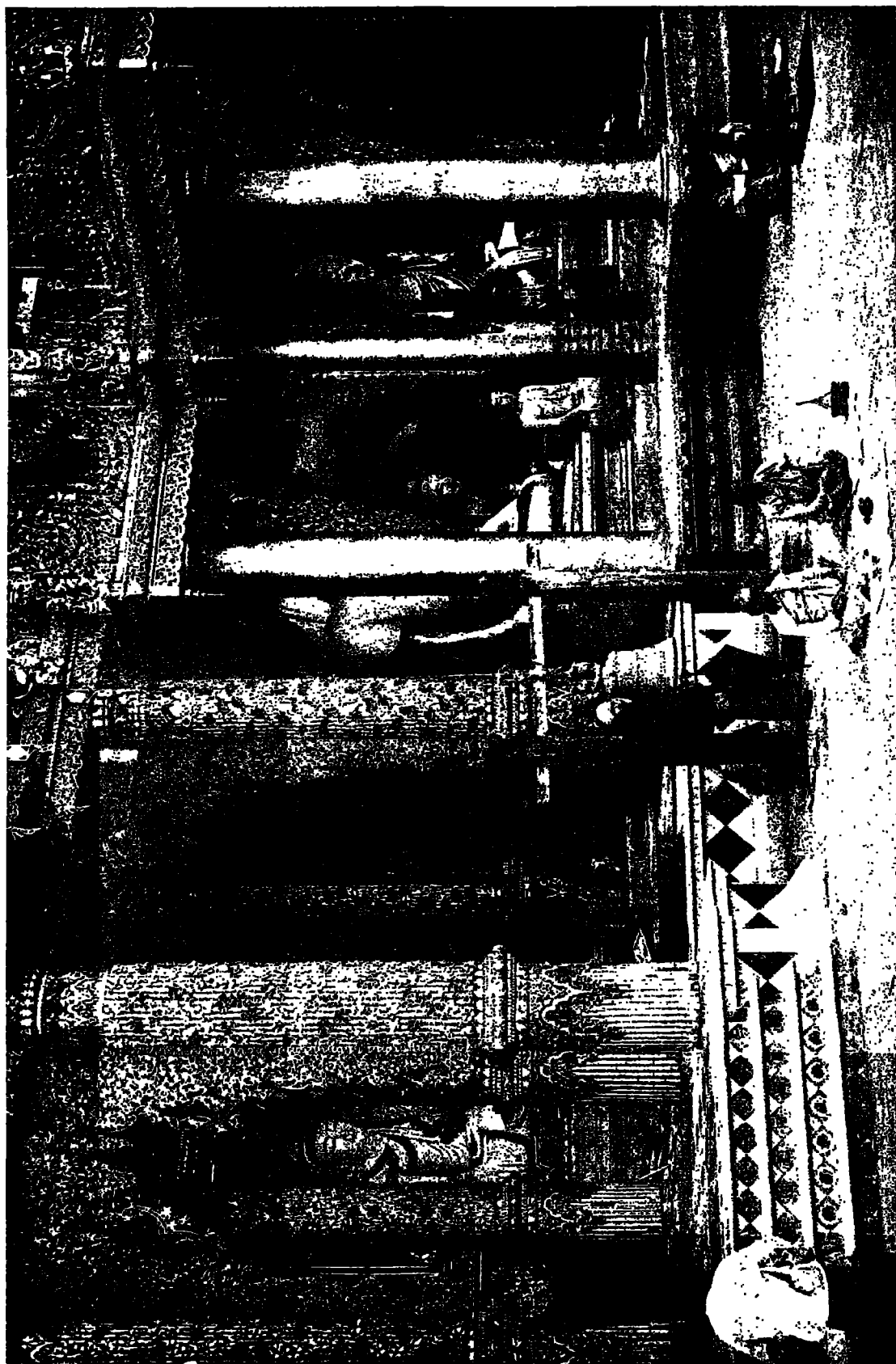
GIGANTIC LEOGRYPHS GUARDING ONE OF THE STAIRWAYS TO BUDDHA'S GOLDEN SHRINE

To gain admission to the Shwe Dagon Pagoda one has to climb 100 feet up one of the 100 stairways which lead to the platform; the fourth or western approach has been closed by fortifications erected by the British at the time of the Burmese wars of the nineteenth century. The arch which forms the actual entrance to the stairway seen here is wonderfully decorated with strange forms and figures, notably of nats, those singular protective spirits that are peculiar to Burmese Buddhism.

incredible unsubstantial fairness, and presently they will switch on the electric light, and the whole vast dome will glitter and wink as though it were alive. The sky is of a deep blue, inset with stars, and the night vibrates with stridulating insects and croaking frogs.

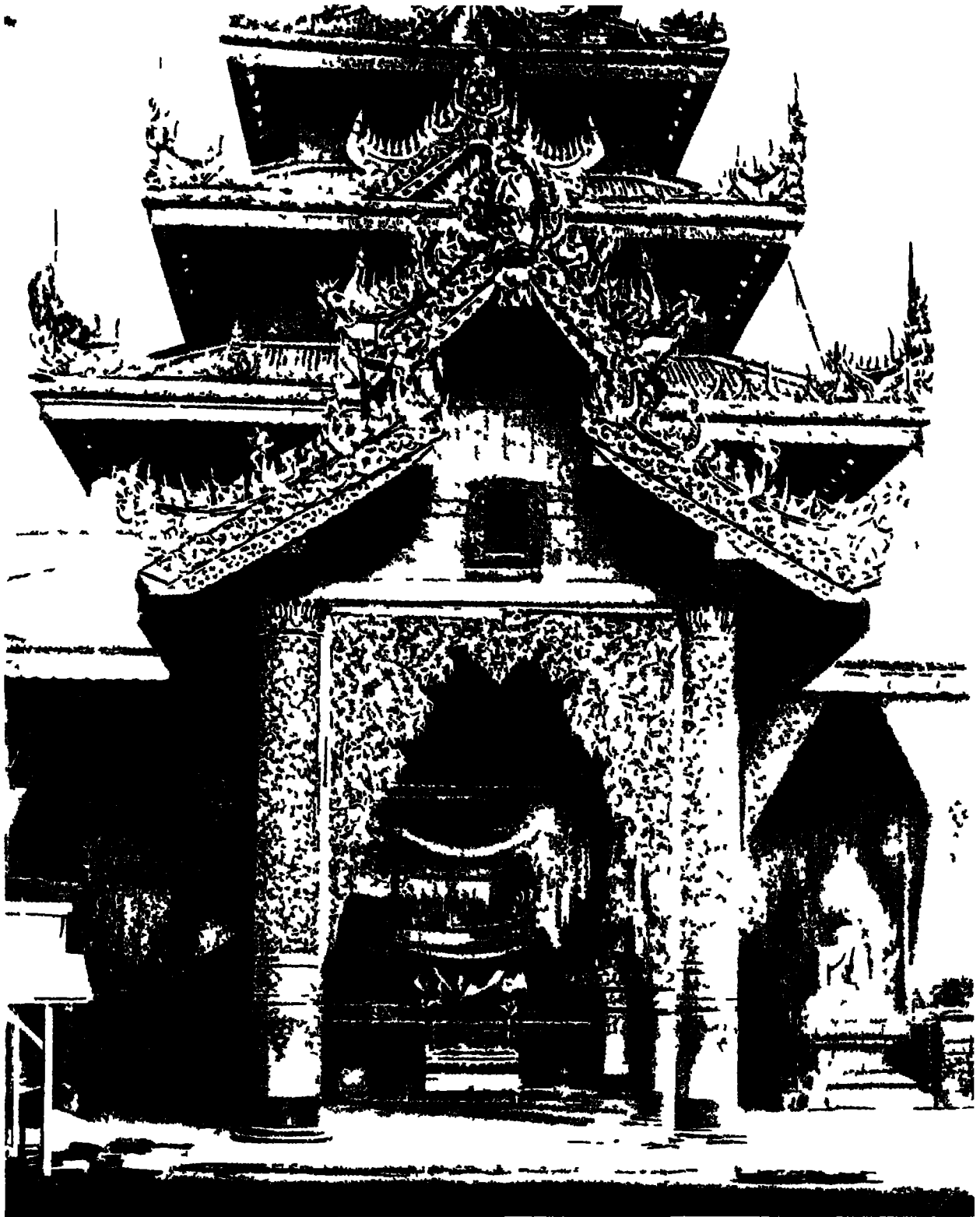
There is one night of the year when the Shwe Dagon wakes from its silence and vociferates aloud the glory of Buddhism. This is the night of Tazaundang, the Feast of Lights, which falls

according to its date, some time within November. Then indeed the platform knows a pious revelry. Rest houses and image houses are lit up thousands of candles burn in the shrines, and a crowd so enormous that the great platform can scarce hold it slowly perambulates to the ringing of bells and the carrying of religious insignia. It is an extraordinary crowd which reinforced ceaselessly from below swells and swells with each passing minute. Exultant happiness rests on every face,



SOME OF THE MANY SHRINES THAT SURROUND THE PLATFORM OF THE GREAT SHWE DAGON PAGODA, RANGOON

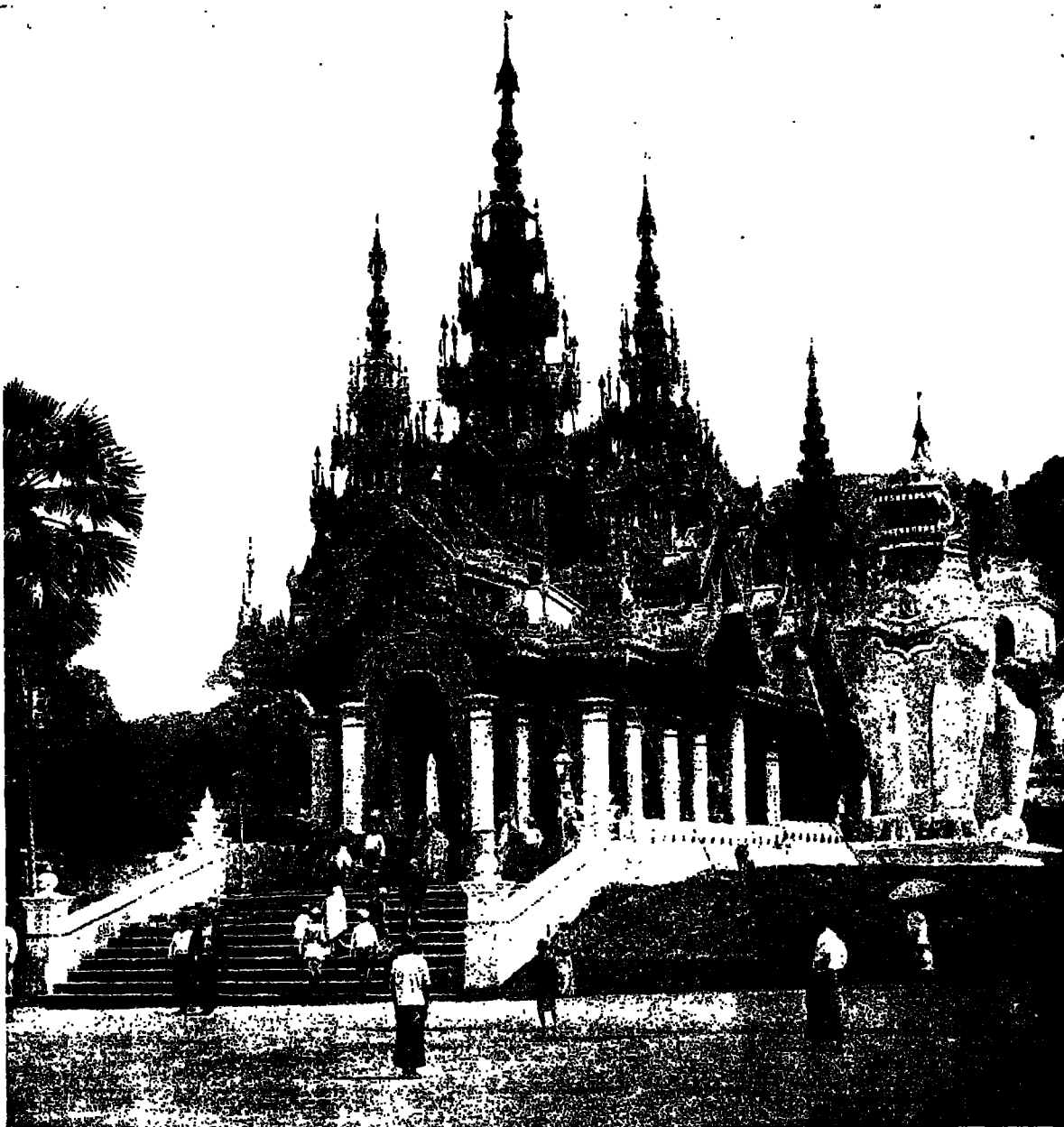
The donations of individuals anxious to obtain merit, or to mark their gratitude for the gifts of health or fortune, such shrines, with their countless images of Buddha, are a feature of all Burmese pagodas. In addition to shrines, the platform of the Shwe Dagon Pagoda contains numerous rest-houses for the convenience of pilgrims from afar, sacred poles with metal crowns or hts, drinking-water stands, bells of all sizes, and other objects, all placed there by men desirous to show their worthiness of that peace and comfort for which they crave.



FANTASTIC CURVES AND CROUCHETS ON THE GABLE OF A MANY SIDED PAGODA

U. W. J. P. R. 1

In the gable of carved teak to this doorway fantasy would seem to have run riot yet the design is clearly intelligent and the ascending, canopied roofs superimposed upon each other just behind it. Again one notices the decorated pillars and the gables of the story on the right hand side. When the short twilight falls these queerly crouched gables and spiky roofs take on an eerie grotesque quality and at night they seem like sentient monsters in the wayward flare of naphtha lamps and the pale radiance of electric lights.



STEPS BY WHICH MYRIADS OF PILGRIMS HAVE ASCENDED TO RANGOON'S GREAT PAGODA

The stairs, now very rough and worn, are covered by a rising series of superbly carved teak roofs, supported on columns of wood and masonry; and many of the cross beams and panels are decorated with frescoes representing scenes in the life of Buddha. At each side of the southern entrance, now the most frequented of the three, stands a mammoth leogryph, built of brick covered with plaster. Only one of these grotesque monsters is shown in the photograph of the entrance here illustrated.

and in that tight-packed throng there is nothing but good humour and mirthful joy. This is the triumphant annual vindication of the Buddhist faith, and watching that crowd one could not but feel that no other religion would suit the glad abandon of the Burmese character.

The Shwe Dagon towered into the night sky, a dark shadow above its tiers of light, and the tumult below gave to its huge bulk a curious majesty of repose. I remember that, as I turned back to

look at it from the roadway beneath, the sight was impressive as never before. Up above, on the platform, lights in their myriads were shifting and gleaming, and the mingled sounds came blended to me as the murmur of a city heard afar. And there, shooting up into the gloom, rose the outline of the Shwe Dagon. It pierced the skies, immense and untroubled, and, as though oblivious of mankind, it seemed to await in silence the high destiny of future ages.

The Wonder Cities. XXIX.

Syracuse : Ancient Europe's Finest City

By The Editor

TOWARDS the end of the third century B.C. Sicily must have had the appearance of an earthly paradise, with her famous city of Syracuse as its gateway. After a struggle lasting some four hundred years the whole island had been freed from the terror of the Carthaginians and on the fragrant hillsides above the blue sea happy shepherd boys piped in a golden age of pastoral pleasure; and yet this was the real beginning of Sicily's decline, as Rome who had helped the native Greeks to eject the Carthaginians remained eventually to make all Sicily a Roman colony and the Syracusans, no longer harried by cruel enemies established in other parts of the island, insensibly sank into the easeful life which breeds decay. But there was a brilliant era of social progress before any evidence of decline could be detected and with this period of her most varied history are we chiefly concerned.

Out of their picturesque ways and their broad, melodious Doric speech the Syracusan poet, Theocritus, had made the last fine movement in Greek poetry. Weary of the Alexandrian court he had returned to his native town and among the upland pastures and woodland ways he found the pastoral inspiration for his admired "Idylls." After him had followed, also from Alexandria, his younger fellow townsman, the man of science, Archimedes. In the train of these supreme Greeks, masters of art and wisdom, came numerous Hellenes of other clans attracted by the brilliant, congenial company that had gathered about King Hiero II. of Syracuse.

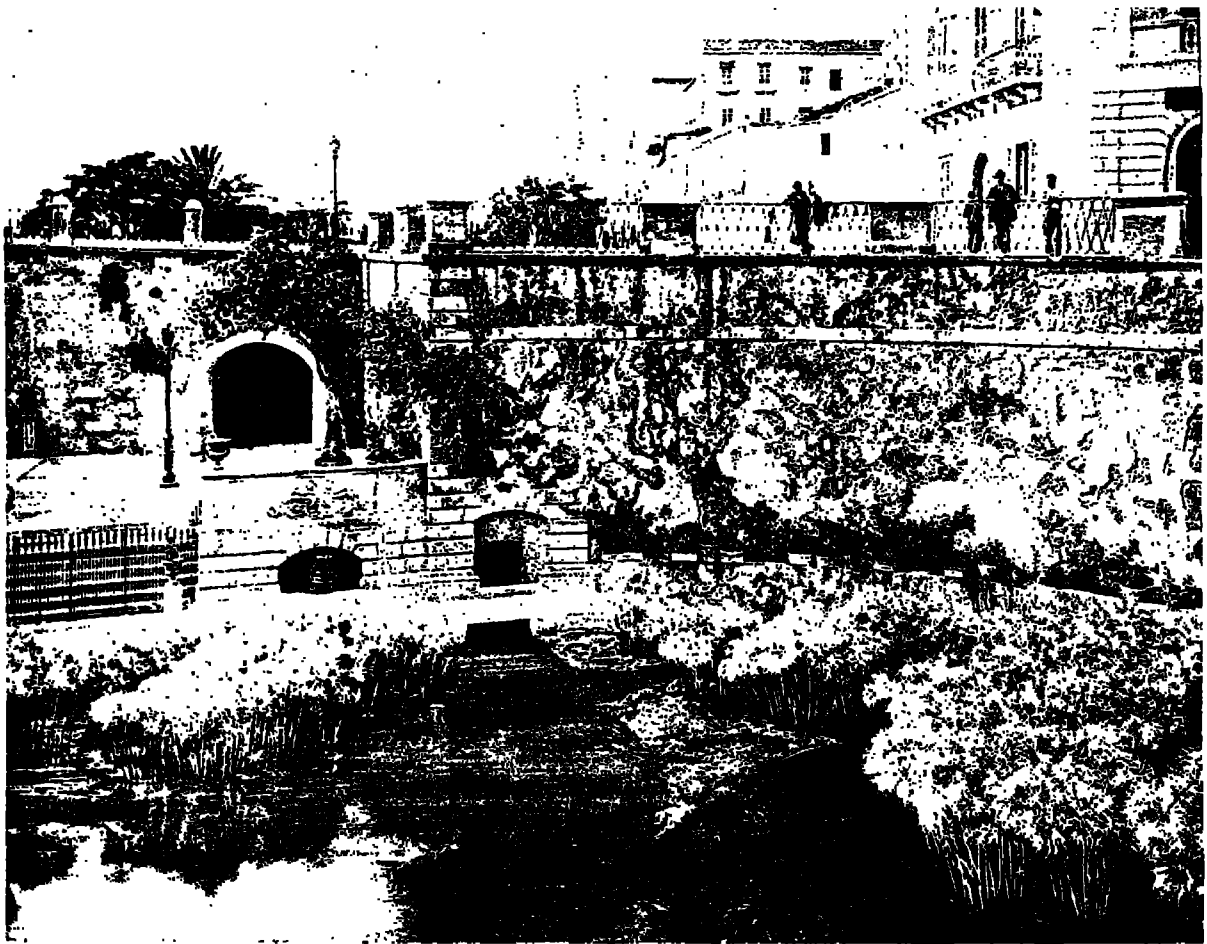
It was like the old times under Hiero I. in the fifth century and under the Elder and Younger Dionysius in the fourth century, when Aeschylus, Pindar and Plato were drawn to the court of Syracuse. In that period the Sicilian capital had with Spartan aid shattered the fleets and armies of Athens; now, with Roman help, she had beaten her older rival in commerce, Carthage. In both cases she dazzled her helpers and captured the mind of the Mediterranean by the regal splendour she displayed in victory.

Great were her uses of advertisement. Her life rested on commerce rather than industry. To her,

prestige was everything. Alike by her geographical position on the south-eastern shore of the wheat growing island of Sicily, which was the centre of Mediterranean traffic as men sailed in those days of timorous seamanship, and by the kind of business in which she had specialised as a colony from Corinth, she was the merchant broker of the midland sea. Her sharp-witted, talkative people took, as a rule, little interest in domestic politics. What best suited the powerful class of merchants was a strong dictator with enlightened views who saw to all the work of government and left them free to push trade abroad. So while the victorious Romans enjoyed their newly-won sea power in a military way, their allies the Syracusans likewise profited by the success over Carthage in expanding their merchant fleets.

It should be remembered that Rome at this period of the Republic would be small and unimposing as compared with the splendid city it later became in the time of Augustus; and even though it was "no mean city," the seat of a vigorous power only now awakened to its glorious possibilities of expansion, Rome would contrast badly with Syracuse which it was fated to dominate. No city in ancient or modern Europe is thought to have equalled her in uniting extent of ground with exquisite architectural grandeur. It was, perhaps, a matter of personal taste whether her severe Doric buildings were finer or less fine than the varied and ornate fanes and monuments of Athens. They lacked the Pheidias perfection of sculptural ornament; on the other hand they included many examples of grand Dorian work of the sixth century which some connoisseurs, represented in recent days most notably by Renan, esteemed to be the height of human achievement in stone. To an austere, Boer-like Roman fighting farmer who might have visited Syracuse in the pause between the struggle with the Carthaginians of Hamilcar and of Hannibal, the city must have been astounding in its glory.

It was based on an islet some two miles long known as Ortygia. This was the original trade factory settled by Corinthians in the eighth century and designed as a fighting outpost of commerce



WATERS OF ARETHUSA, GUARDIAN NYMPH OF SYRACUSE

Pursued by the river god Alpheios in distant Elis, the nymph Arethusa plunged underground and reappeared by the seashore in Ortygia, the original Syracuse, changed by Artemis to a flowing spring. Such is the legend woven about this ancient fountain that supplied the dwellers on Ortygia with water. It is now enclosed by a semicircular wall and in its waters, turned salt since a recent earthquake, papyrus grows and sleek fish swim to and fro. The head of Arethusa appears frequently on Syracusan coins.

against the Phoenicians. North of it was a small natural haven and southward a magnificent deep bay. The entrances to both of these could easily be defended, while the strait between the islet and Sicily enabled home fleets to pass from one shelter to another. Tyre had similar natural double harbours and Carthage, as we have seen (see pages 636 and 637), possessed artificially constructed ports on the same plan.

The Greeks of Syracuse were, however, more courageous than their Semitic rivals. So soon as they felt strong at sea they forwent the advantage of communicating harbours, built a great causeway from Ortygia to the Sicilian mainland and extending their city over the plateau of Achradina northward and westward used the famous fountain stream of Arethusa on the island as their water supply. At first they did not rely on fortifications but met the Carthaginians in the open field and shattered them at Himera; but in battle with new foes of

their own nationality, the Athenians, they adopted the method of trench warfare and, fighting as they dug and built, drove lines through the Athenian works and raised walls, towers and ditches in the form of an immense angle running far inland to the fortress crest of Euryalos. It may be doubted if any of the renowned colossal defences of Asiatic capitals, such as Nineveh and Babylon, approached in veritable strength the sixteen miles of towered ramparts that protected Syracuse. The later defensive works of Carthage may have been modelled upon those of the Sicilian city.

When we read of the fortifications with which the skill of Archimedes endowed his native city and consider that the Romans in their long siege of it, 214-212 B.C., during which that great genius met his death, overcame the most valiant efforts of its defenders, we must either discount the estimated strength of the Archimedian works or assume that the warlike temper of the Syracusans

had lessened in inverse ratio to the growth of Roman prowess. We are told that Archimedes made the inland key fortress of Euryalos incomparably strong. A grand irregular structure following the shape of the height it occupied it had three immense fosses cut deep in the rocky crest which was the only line of approach. Then behind the many towered wall of the main citadel were huge masses of masonry to serve as targets for hostile machines. The garrison was housed in subterranean halls and chambers deep in the mountain rock. Finally a vast network of tunnels some from 6 to 10 feet wide for infantry and others higher for cavalry connected with a great underground highway. Thus, in turn, led by eleven corridors for foot and mounted troops into the grand fosse on the western side of the crest. The great sally ports are said to have been screened by leaving thin weed hung partitions of live rock in front of

them. As special Archimedian machines of war prevented the great canal like ditch from being bridged assailers had to climb in and out of the death trap and to break down the defence. Armishers had to descend in large numbers. Then the subterranean gates opened and poured out armoured cavalry and foot. This tunnel system was about 1600 feet long. Another system ran some 350 feet to a northern work and below the central citadel were more great passages. A surprise and decisive counter offensive upon an enemy's flank when he was locked in his vain attack seems to have been the strategic plan of Archimedes. His work was probably the masterpiece of ancient military architecture. There were other secrets in the last Syracusan system of defence but they were soon clouded in fables of magical power by superstitious people who not understanding his discoveries mistook the father of modern physics for a wizard.



BUILT BY DIONYSIUS AND STRENGTHENED BY THE GENIUS OF ARCHIMEDES

The strategic importance of the westernmost part of Epipolae, the mainland height to which Syracuse spread from Ortygia was appreciated as a result of the Athenian campaign during which the best part of this commanding plateau was captured. As a result the wonderful fortress of Euryalos was built with its system of fosses and passages cut in the solid rock. Here is a sally port into one of the fosses with the piers of a diaphragm that once spanned it in the background.



BEAUTY MASKING TRAGEDY IN A SYRACUSAN STONE QUARRY

Of incomparable beauty, their sheer sides draped with fern and the tumbled rock masses in their centre ablaze with bougainvillea and gorgeous creepers beneath the Sicilian sun, the "latomie" or quarries of old Syracuse are yet grim with memories of human anguish; here it was that the plague-stricken Athenian prisoners died and rotted in their thousands. And it must be remembered that the space open to the sky was then far less than now, for the roofs of labyrinthine workings have collapsed beneath the shock of earthquakes. This far southern quarry (see the misty outlines of Ortygia) was perhaps used for the Temple of Zeus.

Photo by Autotype Co.

Stretching from the shore and protecting the fleets in each harbour were the walls and towers of Ortygia and its causeway, mounted with mighty lever-worked engines of artillery casting missiles that could sink any ship of those days. The old islet was a royal fortress, a palace-citadel, grim without and most alluring within. Here the former tyrant Agathocles had lived in fear of his people; but Hiero II., a gallant general elected to the throne, won the love of his subjects and reigned for fifty years of luxurious liberality in a palace celebrated for magnificence. He it was who skilfully balanced the great commercial centre upon the power of Rome, while maintaining and extending the profitable prestige of the city. With increasing trade his revenues grew and much of the money was spent in the best form of advertisement. Hiero set himself to outbuild the rest of the world. Finer in taste than the rulers of Alexandria, Antioch and other capitals of Macedonian foundation, he already possessed the grandest of sites, containing the accumulation of centuries of pure Dorian art. Being himself a Dorian aristocrat, he was one with his people in a kind of noble reticence of style. One of the last of the great classic master builders, he conserved the earliest Doric fanes, like the temple of Apollo by his palace and the temple of Athene of the sixth century still in part surviving as the cathedral of Syracuse, disguised yet remarkably complete.

On the market place he constructed a splendid new temple to the Olympian Zeus and in the Neapolis quarter he rivalled the passion for grandiose effects of Macedonian monarchs by building a colossal altar more than 600 feet long with two terraces exquisitely ornamented in the Doric manner. Near by on the southern slope of the Achradina upland was a great fifth century theatre made by Hiero I. Holding some 24,000 spectators in its sixty ranges of seats, it was one of the first in date and vastest in size of the literary stone monuments in the Hellenic world. Here the first Greek comedies, by the Sicilian originator Epicharmus, had been performed and the tragedies of the great poetic dramatists given to excited audiences. After they defeated the Athenians the Syracusans had forgiven every captive Athenian soldier who could recite fine passages from Euripides. He was still their favourite poet and his picturesque opera-like plays continued to draw crowded audiences to the grand open-air theatre. So the later Hiero crowned the work of his predecessor by remarkable embellishments in good taste.

It were idle to try to catalogue the works of this king of art, his temples and public buildings, his colonnades, gateways, ornamental open spaces and fortresses. The statuary of Syracuse, ranging

from the quaint, ugly, primitive attempts on the ancient temples to the noble perfection of the Doric schools and the decadent sweetnesses of the Praxitelean sculptures, was in scope probably the most remarkable in existence. For it included most of the extant masterpieces of the ruined Dorian cities in Sicily. All this immense secular wealth of architecture and sculpture glowed in the pure, bright Sicilian air with sparkling colour. Far from being a large, cold white city, Syracuse climbed from the blue sea and the green shore up and over the plateau like a rainbow-robed capital of fairyland. There was, however, no chaos of tints. On buildings colour was used to bring out architectural lines; on statues it was employed to give to marble a peculiar breathing beauty that no work in stone now preserves.

Owing to its immense area of strongly guarded ground, Syracuse could allow her numerous merchant princes and fighting nobles lordly spaces for mansions on the great stretch of high land above the ports and the valley of the Anapos river. There was no need for small, insignificant dwelling houses in the Athenian manner. Indeed, as the southern river valley with its exotic clumps of tall, fanlike papyrus was a notorious death trap of malaria, health as well as taste and luxury led the rich Syracusans to build in a large, airy way on the uplands of their vast, ramparted city. It was one of the features of their defence, from which both Carthaginian and Athenian invaders had terribly suffered, to invite attack from the riverside by a show of weakness there, so that the besiegers should be conquered by disease. The device had, by repeated success, become notorious, yet was still held in reserve, and no important drainage works were undertaken to dry the breeding places of the deadly mosquitoes, though this preventive method against malaria is thought to have been well known in Sicily even at that time. Work ceased in the fertile malaria land well before sunset and nobody slept there in the warm season when the gnat was awake.

The great limestone quarries on the northern upland were well remembered memorials of the power of the guardian gnats of Syracuse. Beautiful they were to see, though Hiero had lately gashed their beauty in getting stone for his buildings. Along the flank of Achradina they wound for some ten furlongs, going down to a depth of thirty yards. Into them seeds of semi-tropical fruit trees, flowers and tapestrying plants had drifted and profusely germinated under the warm sun so that they had grown like ways of Eden for scent and wild loveliness. Such were the "Latomie."

Into them had been cast in 413 B.C. some 7,000 Athenian soldiers and sailors, the remnant of a



BEAUTY MASKING TRAGEDY IN A SYRACUSAN STONE QUARRY

Of incomparable beauty, their sheer sides draped with fern and the tumbled rock masses in their centre ablaze with bougainvillea and gorgeous creepers beneath the Sicilian sun, the "latomie" or quarries of old Syracuse are yet grim with memories of human anguish. Here it was that the plague-stricken Athenian prisoners died and rotted in their thousands. And it must be remembered that the space open to the sky was then far less than now, for the roofs of labyrinthine workings have collapsed beneath the shock of earthquakes. This far southern quarry (see the misty outlines of Ortygia) was perhaps used for the Temple of Zeus.

Photo by Autotype Co.

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WHERE SYRACUSAN DEAD SLEPT IN A ROCK-HEWN STREET

Cut in the rocky slope that bounded the shoreward quarters of the old town and leads up to the wind-freshened heights once called Neapolis, or "New City" the Street of Tombs starts at an ancient fountain behind the theatre and curves round in a broad sweep. Of the hundreds of tomb chambers that line its sides, the majority are of Roman date; all have been long despoiled, and their only tenants are the brilliant lizards that love the hot stone of such a heaven-sent sun-trap.

force of some 100,000 men that had tried to carry Syracuse from the malarial southern side. Thanks mainly to the pestilent gnat, the force had been reduced to 40,000 fever-stricken men and when these endeavoured to retire they were surrounded and massacred, being too much weakened by disease to resist. The 7,000 survivors, cast into the Latomie to slave without sufficient food, mostly died in a general agony lasting seventy days. Their unburied bodies set up a plague, and the revengeful Syracusans, for their own safety, sold as slaves the small number that remained alive.

The Syracusans had been unfairly attacked by the Athenian democracy which, in sheer greed of rich dominion, aimed at subjugating the whole of Hellenic Sicily. Likewise in their conquest of Melos island the braggarts of freedom had put to death their male fellow-Hellenes, sold all the women and children as slaves and recolonised the land.

Thus it came about that the men of Athens were left slowly to perish of hunger and thirst in the quarries and that the quarries now abide memorable amid the ruins of the greatest of the ancient city of Europe as the grave of the old spirit of selfish democracy.

The Syracusans wisely preferred the rule of a dictator to that of an inflammable mob. They wavered at times under bad rulers but returned to some sort of tyrant when political disorder menaced their trade interests. At the end of the reign of Hiero .II. they made a deadly mistake in judgement of foreign affairs. Hannibal was then engaged in his extraordinary career of futile victories through Italy. Syracuse reckoned its long alliance with Rome would complete the effect of its age-long antagonism to Carthage. In the hope of escaping destruction by Hannibal, it broke with Rome and sided with the conqueror of Southern Italy, who then bade fair to become the master of the

world. Despite their extreme difficulties the angry Romans sent an expedition under Marcellus who strongly besieged the Sicilian capital for two years. From 214 to 212 B.C. the Syracusans with the aid of the inventive Archimedes fought the Romans. Their main fortress of Euryalos proved impregnable, but the spirit of the city garrison weakened. City Dorians of merchant breed were no longer great fighters. Neither so were their rural kinsmen, the Spartans. Virtue had gone out of this great old stock. The Romans carried the rampart and, sacking the city of its treasures, ruined its commerce and reduced it to the position of part of the province of Sicily.

To some extent commerce revived in the days of the Emperor Augustus and the vast catacombs driven through the rock of the city by the Christians, though only half explored, are in structural character more striking than those of Rome and testify, like the immense Roman amphitheatre, to the

considerable population of the town. But it was shrinking. Wider and wider grew the empty spaces within the ruined ramparts. Under the conquering Moslems in 878 A.D. the process of decay quickened and it went on through the Middle Ages and the modern period, until only the earliest Dorian settlement site, Ortygia islet, remains peopled. On the mainland is the immense waste of broken, tumbled stone representing the real city as distinct from the royal island citadel. Trade flowed into Arabic and Norman-Arabic Palermo, and Palermo is still growing upon it.

Syracuse lies like the bleached, broken bones of a gigantic skeleton with one mummied foot intact. So profound is the decay that no name can be attached even to some of the grandest ruins, such as the marvellous altar to an unknown deity. Syracuse with her wealth of architecture has been wrecked beyond recognition. Her most lasting monuments are literary.



THEATRE IN DRAMA-LOVING SYRACUSE, MOST CULTURED CITY OF GREATER GREECE

Below the Street of Tombs is the theatre. It is one of the largest of its kind, being about 165 yards in diameter ; forty-six tiers of seats are extant and possibly there were once as many as fifteen more. Built in the fifth century B.C. by Hiero I., it is still occasionally used for representations of Greek drama. The inscriptions to be discovered on it mainly refer to King Hiero II., the friend of Rome and munificent patron of all the arts at the end of the third century B.C.

Records of the Tombs. VIII.

The Soul's Journey to Paradise

By Donald A. Mackenzie

Author of "Egyptian Myth and Legend," etc.

IN the inner chamber of the Tutankhamen tomb the figure of an Egyptian jackal has for thirty long centuries been keeping watch over the mummy. Here we touch on one of the world's most ancient beliefs regarding the destiny of the soul. It was believed that in death, as in life, man was in constant need of his faithful companion, the dog, his immemorial sentinel and scout, who would defend him against human and bestial enemies and act as his guide and tracker when he wandered afar in search of food and shelter. The belief is enshrined in the lines of Pope:

He thinks, admitted to that equal sky,
His faithful dog shall bear him company—
was shared by "the poor Indian" and the highly-cultured Egyptian aristocrats and Pharaohs.

The prowling jackal was regarded by the early peoples as the hunting scout of the lion. It is closely allied to the dog, and the dog was the first animal domesticated and deified by man. Herodotus tells us that when a pet dog died the Egyptians went into mourning and shaved their heads and the whole of their bodies and that there were sacred burial places for dogs. It was no doubt because the wild jackal was seen by night prowling in the cemeteries that the Egyptians regarded it as "the dog of the dead," and deified it as Anubis. Many ancient and modern peoples have clung to the belief that a dog howling in the darkness proclaims

the sudden and stealthy approach of the god or goddess of death. Thus, the Greek poet Theocritus makes Smaetha exclaim: "Hark! the dogs are barking through the town. Hecate (portress of Hades) is at the crossways. Make haste and clash the brazen cymbals." Many folk-stories and old myths tell of the terrible watch-dogs of Hades, of dog-scouts accompanying souls, and of attacks made by dogs on supernatural beings who threaten the lives of their owners.

Anubis, the Egyptian wild-dog, was a veritable scout of souls. As Ap-uat he was "Opener of the Ways," guiding the dead along the dark and desolate paths that led to the mysterious Underworld of Paradise.

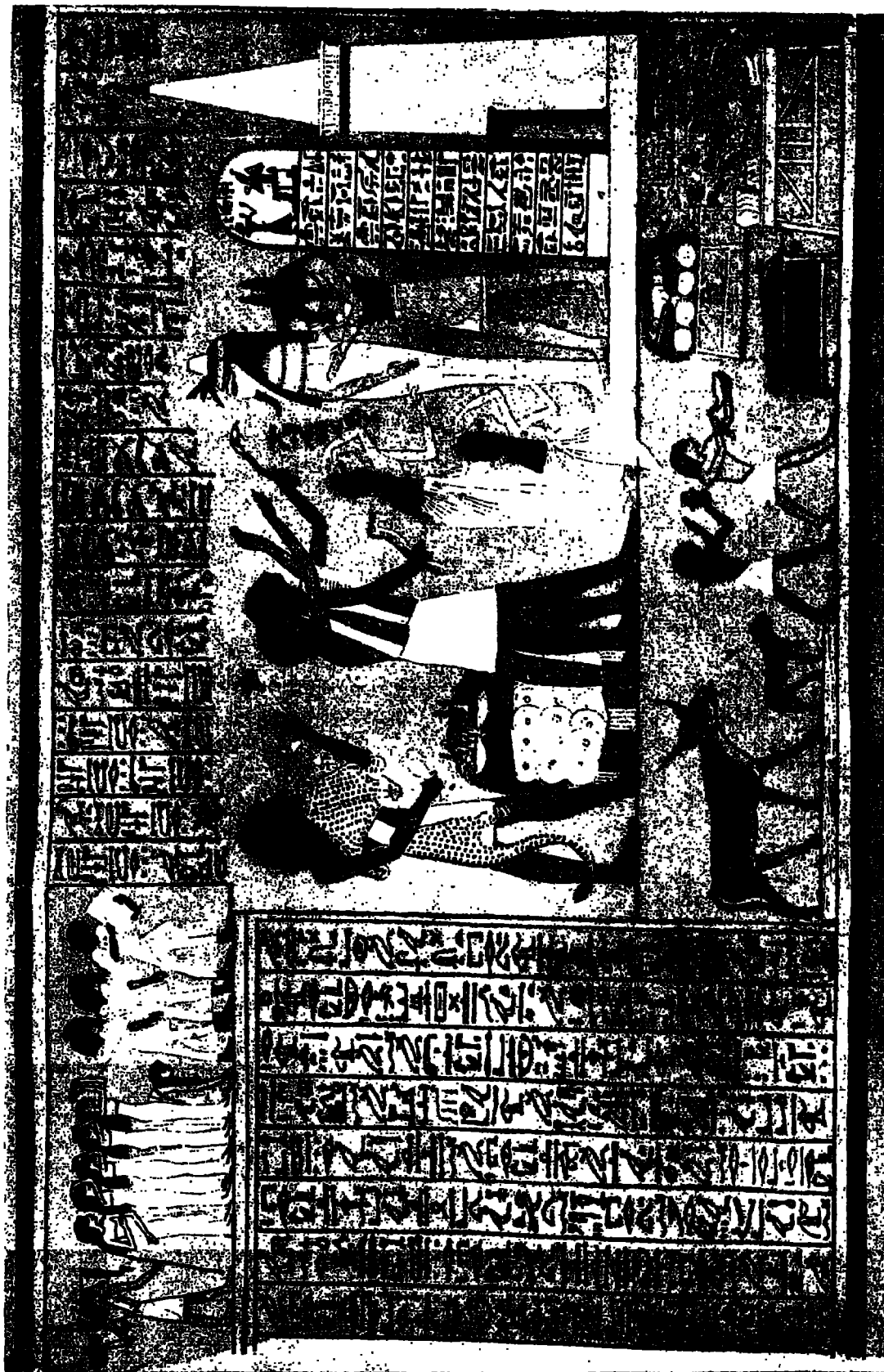
By Tutankhamen's time, however, Anubis had become a highly complex deity and had assumed a double character. In the tomb he was a sentinel crouched or standing beside the mummy. "I have come to protect Osiris (the dead Pharaoh)," declares Anubis, in the "Book of the Dead"; he was also supposed to assist in the process of mummification. In his other form he conducted the soul to the Celestial Paradise. Plutarch, commenting on these conceptions, and on the resemblance which the Egyptians "imagined between Anubis and the dog," said it was because it had been observed that the jackal "is equally watchful by day as by night" that Anubis was regarded like the Greek Hecate as "a deity



HOUSES FOR THE SOULS OF THE DEAD

It is hard to reconcile all the funerary practices of the Egyptians—these pottery models of houses, for instance, set on top of the tomb for the use of the soul. Note the chair, which places this example in the tenth or eleventh dynasty.

From "Giseh and Elifeh," by W. M. Flinders Petrie



MAGIC WHEREBY THE PRIESTS OF ANCIENT EGYPT AWOKED THE MUMMIFIED DEAD

After the preparation of the mummy, illustrated in page 1038, there were other acts to be performed for the dead man. One was known as the ceremony of the Opening of the Mouth, and belonged to a series designed to re-animate the mummy and make it a fit habitation for the "ka," or double, which lived in the tomb. This double was born with a man, but at his death took on a separate existence and was free to roam the world at will, returning to the tomb, however, to feed on the funerary offerings; the part of a man which voyaged to Paradise was his "Ba," or soul, symbolised as a human-headed hawk. This vignette from the "Book of the Dead" of Hunefer shows the mummy before which the wife and daughter of Hunefer are weeping, while the high priest and his assistants perform the mystic rites; the god Anubis is also introduced, embracing the mummy, to indicate that his protection is assured for the dead man.

From the Papyrus of Hunefer, by permission of the Trustees of the British Museum.



THE SOUL'S FIRST FLIGHT

The preparation of the mummy with its magic armour of charms and amulets was an important task and placed under the protection of the god Anubis, who is here shown in the act of fixing the corpse on the funerary couch. The human-headed bird is the soul of the deceased holding the breath-giving, sail and sceptre of power.

After a drawing by E. O. H. W. M. 11. 11. 11

common both to the celestial and infernal regions." Apuleius tells in the romance of 'The Golden Ass' that when the worship of Osiris and Isis had been established in Rome the dog god was represented in the Procession of Isis carrying his head and neck, and he refers to the dog god as "that messenger between heaven and hell, displaying alternately a face black as night and golden as day."

But the dual character of Anubis was due mainly to the fusion of two ancient Egyptian cults that of Osiris which originally believed in a Paradise in the West, and that of the sun-worshippers who believed in a Celestial Paradise in the East—"to the east of the sky," as the old Pyramid texts emphasise. The early conflict between the two cults is echoed in the

mortuary texts dating back till about 2700 B.C. Go not on those currents of the west,' a Pharaoh is warned.

Those who go thither they return not again.' In another passage, translated by Breasted, the dead, however, is advised to go to the 'West' in preference to the "East," while a third effects a compromise by stating that

King Unis rests from life (dies) in the West . . . King Unis dawns anew in the East."

Osiris, an ancient deified king was identified with the god of the Western cult called Iusir of the Westerners and it would appear that the story of his dismemberment was a dim memory of an ancient burial custom which had for its aim the release of the soul, so that it might go Westward led by the wild dog-scout of the night. To the later Egyptians the dismemberment custom was



THE SOUL COMES FORTH FROM THE TOMB

The ceremonies over and the mourners departed the soul is now free to go forth on its perilous journey to Paradise. This illustration from the Papyrus of the scribe Ani shows the dead man standing at the door of the tomb, accompanied by his shadow, or "khabit." The human-headed hawk, as usual, symbolises the soul.

By permission of the Trustees of the British Museum

abhorrent, and in the "Book of the Dead" the mummy is made to exclaim: "My head shall not be taken from my neck, my tongue will not be torn out . . . my body is firm and shall not be destroyed." The gruesome custom referred to is found to have been practised by the early North African invaders of Europe who, in the Avarian period, buried the heads of their dead in the cave of Ofnet in Bavaria, and turned their faces towards the west, being apparently believers in the existence of a Western Paradise, the way to which had been "opened" by the first man, remembered in Egypt as Osiris, with the aid of his faithful dog.

The early Egyptian texts do not give details of the adventures experienced by the souls who set out on the perilous journey to the Paradise in the West, but apparently they had to cross bleak deserts, climb high mountains, ford streams, and engage in combat with fearsome monsters—gigantic complex animals and reptiles, fire-spitting serpents, dark shapes with clutching claws, and so on. These the dead man was enabled to overcome, or escape from, because his dog-scout came to his aid and constantly led him along the safe path to the land of bliss. A lake—"Iily Lake"—had to be crossed, and its ferryman was the cross and callous "Face Backwards" who had to be propitiated.



THE BOAT OF RA PASSES INTO THE WEST
According to the Eastern cult the soul entered the boat of the sun god Ra, passing at night into the Mountain of the West and partaking of flesh life with him each morning in the east.
After a photograph in the Minutoli Catalogue

The texts of the solar cult provide more intimate details of the soul's last journey. They provide also a variety of conceptions regarding life after death. One beautiful old belief was that when the Pharaoh died, he became once more a helpless babe and had to be suckled by the mother-goddess. Professor Breasted has translated some characteristic Pyramid texts in this connection: "This King Pepi knows his mother," one text declares, and the goddess is appealed to in these words so that she may suckle him.

O mother of this King Pepi, give thy breast to this King Pepi, suckle this King Pepi therewith.

A text then puts into the mouth of the goddess the comforting assurance:

O my son Pepi, my King, my breast is extended to thee, that thou mayest suck it my King

and live, my King, as long as thou art little.

But the idea of rebirth in infant form had already become archaic in the ancient Pyramid Age of the early dynasties. No doubt the custom of mummification which was then being gradually adopted, had something to do with the abandonment of the idea of the infant soul. The Pharaoh's body was being preserved so that he himself might have real existence as an adult in the Otherworld of the Celestial regions, and in various texts we can trace a variety of beliefs regarding the manner in which he was supposed to reach the sky. Some early and

late texts tell of a ladder similar to that which Jacob saw in his dream—"a ladder set up on



PERILS OF THE WESTERN DESERT
The souls that sought Amenti in the West did well to avoid these ominous apes, who fished with nets for the souls of men. The well-instructed soul preserved its human form.
After a facsimile by Dœrflinger

the earth, and the top of it reached to Heaven : and behold the angels of God ascending and descending on it " (Genesis xxviii. 12).

A Pyramid text tells of the gods "fixing together the ladder for King Pepi," and another calls on King Unis to climb the ladder so as to reach the sky. The ladder ultimately became a stairway, and was taken over by the Osiris cult after the Paradise of that god had been raised to the regions beyond the sky. Sometimes the ladder is referred to as one of wood, and sometimes as one of rope. Other beliefs were that the Pharaoh was raised to heaven by the wind, or that he climbed a column of smoke and then used a cloud as his vehicle. "He has been taken away by the clouds of the sky," one text proclaims, while another says of the Pharaoh: "He goes up on the smoke from the mighty burning of the incense." In many ancient Egyptian pictures the soul, "Ba," is depicted as a human-headed hawk or falcon. The idea of the soul reaching the sky in bird form is found to be as old as the Pyramid Age, when the gods, as stars, were supposed to flutter by night into the darkened sky. "Thou takest flight to the sky as a falcon," a text suggests to the Pharaoh; "thou hast perched on a cloud like a bird on the top of a mast," is another example of imagery characteristic of the Egyptian texts.



MAGIC TAUGHT BY THE "BOOK OF THE DEAD"

By intercession and the right formulae souls could obtain the aid of the goddess Hathor on the last stage of their journey. Appearing as a cow, she carried the tired soul on her back at a swift gallop through the haunted desert lands

After a coloured facsimile in Feermann's "Monuments Egyptiens"



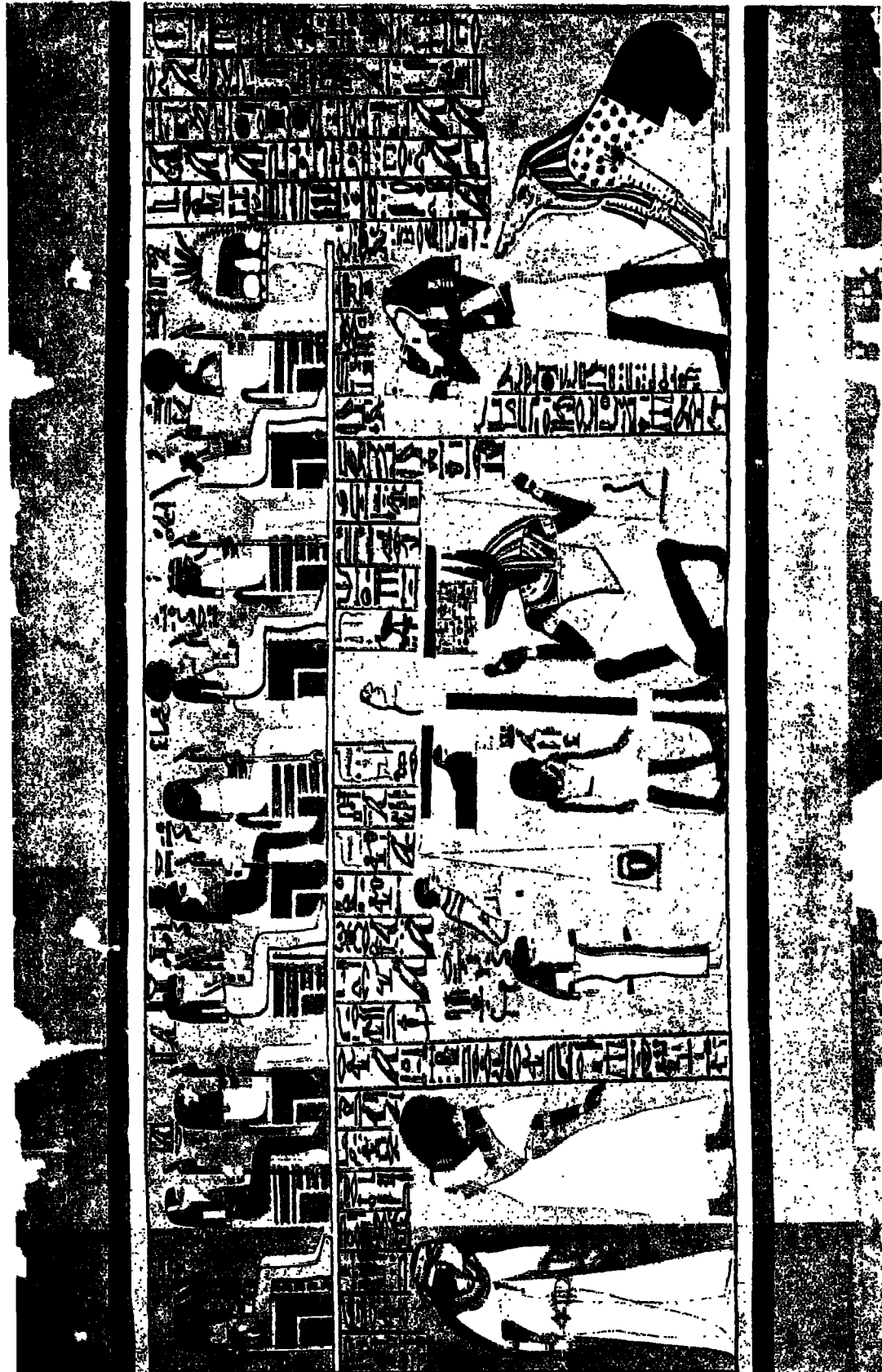
SUSTAINED BY THE EGYPTIAN TREE OF LIFE

The deceased and his wife are here shown receiving from the goddess Nut, in her sacred sycamore tree, the bread and water wherewith weary travellers might be refreshed. She must be distinguished from Nut the sky-goddess, and is often identified with Hathor, the Lady of the West.

After a coloured plate in Rosellini's "Monumenti Civili"

Apparently, however, the soul-transformation belief did not entirely satisfy the theourising priests, who still clung to the memory of the nursing deities. In some very old mortuary texts the Pharaoh is represented as being lifted from the earth by the mother-goddess, whose body was supposed to curve over the world, forming the sky, her legs and arms being the supports of the four quarters. In ancient pictures the arms of the mother-goddess are shown stretching towards the earth from the curving sky, and a Pyramid text, inscribed for the benefit of one of the old Pharaohs, renders articulate this piece of symbolism in the words, "Nut (goddess of heaven) has reached forth her arms to thee, she with the streaming hair (sun rays) and hanging breasts." In other texts that have been preserved the gods and the priests (literally "servants") are called upon to raise up the body of the re-animated monarch.

After reaching the sky, which was supposed to be of iron, the Pharaoh had to have its door or gates opened for him. Magical texts were provided to secure that this would be accomplished. The insistence in the Pyramid texts that the dead should go eastward suggests, however, the existence of the belief that admission to the Celestial regions was possible only at dawn. The foundry (mesnet), in which the new sun was forged, was situated in the eastern horizon. "When the doors of the foundry



THE LAST AND MOST TERRIBLE ORDEAL OF THE SOUL OF THE SCRIBE ANI

By permission of the Trustees of the British Museum.

THE LAST AND MOST TERRIBLE ORDEAL OF THE SOUL OF THE SCRIBE ANI

After studying the terraces of the western desert, by the correct use of the magic formula contained in his copy of the "Book of the Dead," Ani the scribe, who died in the eighteenth dynasty, arrives in the dead land at Hall of Osiris. He has already made his confession of righteousness before the forty-two Assessors, and now stands with his wife, both humbly awaiting for the final verdict. Before them is the lotus of Truth, while Thoth, the god of Truth, who will devour the heart of the sinner with his crocodile, lion and hippopotamus combined, who will devour the heart of the sinner in the Boat of the Living. On the standard of the Boat, can be seen the cynocephalus of Thoth, while the soul of the dead man, under the form of a human-headed hawk, together with his lotus and the goddesses Meskhmet and Renenet, anxiously watch the proceedings. Above is the great company of the gods of Heliopolis who act as the jury at the trial.



AFTER MANY TRIBULATIONS THE SOUL FINDS REST AT LAST IN THE KINGDOM OF OSIRIS

The trial which awaited the soul on arrival at the Hall of Osiris is illustrated in the colour plates facing pages 1056 and 1060. Here the judgement been adverse, the soul would have been devoured by Ammut, or changed into a black pig, but triumphantly indicated, Ani the scribe is here shown being introduced by his eldest brother to the gods of the Egyptian fields and irrigating the Celestial Nile. It was a pleasant land of fields and rivers where crops grew tiller in an earth, and there the soul would meet his accusers and live as he lived on earth but in glorified form. In the upper register the introduction takes place, while below Ani is seen ploughing reaping, and sowing his paradisaical inheritance.

From the Papyrus of Ani, by permission of the Trustees of the British Museum



DELIGHTS OF THE OSIRIAN PARADISE

After the weariness of the desert journey the cool streams of Paradise were a welcome solace. Here Anu and his wife Iutu are shown drinking draughts of refreshing water from the Celestial Nile on whose banks are growing fruitful palm trees.

From the Papyrus of Ani by permission of the Trustees of the British Museum

are opened" a text declares, 'the disk (in other words, the sun) riseth up'.

On entering the foundry doors the dead man was accompanied by Horus, in his form of a green falcon called 'Morning Star,' another indication of the belief that the Celestial regions to the east of the sky could be reached at dawn only. The wonderland of the realm of Ra the sun god was then revealed to the wandering soul. Guided by the Horus falcon the Pharaoh was led to a lake in the midst of the 'Field of Life.' On this lake there was an island where grew a Tree of

Life (the Celestial sycamore-fig) beside a Well of Life.

There are many pictures of this wondrous Tree, symbolic of Nut, sometimes here identified with the mother-goddess, Hathor. That deity was sometimes shown rising from the tree, holding a jug in one hand and cakes and fruit in the other. Sometimes she was represented pouring out the liquid called "Water of Life" from her jug held in one hand; the liquid falls on the outstretched hands of the Pharaoh, from her other hand a liquid streams down to the mouth of the soul, a man-headed bird, the "Ba." She might also be shown seated beside the tree, adored by the Pharaoh, while his name was being carved or written on the trunk by the god Thoth.

References are made in the Pyramid texts to the Celestial "morning meal" of the Pharaoh. Not only did he partake of the fruit of the Tree of Life and the juice of the tree and of the "Water of Life," but of his "thousand of bread," his "thousand of oxen," his "thousand of beer," and his "thousand of everything whereon the god lives."

Another view was that the Pharaoh entered the boat of the sun god Ra. Before doing so, he had to overcome his enemies and rivals. In the sun boat sat the scribe of Ra. The Pharaoh broke this scribe's tablet and pen and ejected him from the



JOYS THAT AWAITED THE JUSTIFIED BEYOND THE WEST

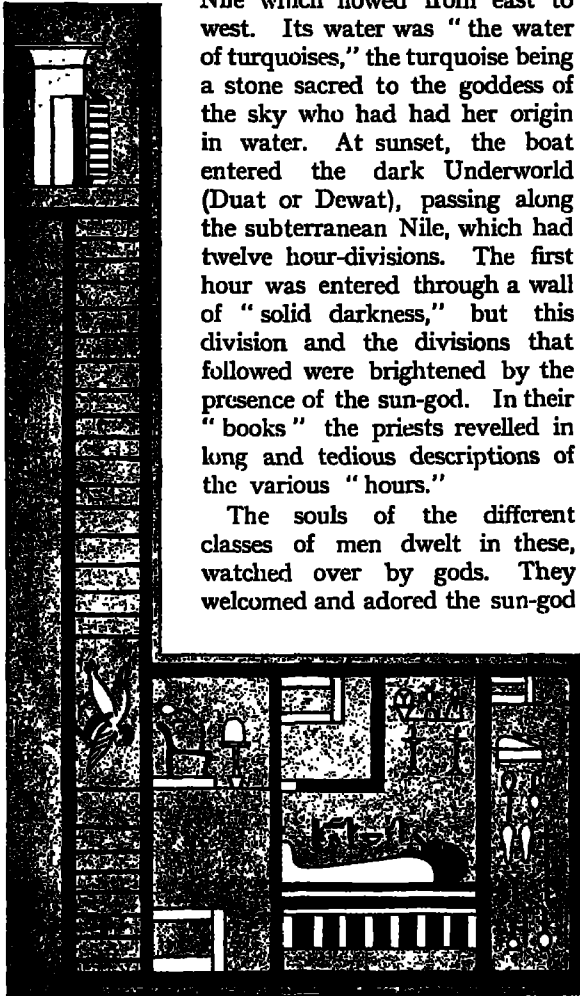
If the dead man hunted in life, he hunted in Paradise, if he had feasted there he feasted here, and all the pursuits of his mortal existence were reproduced. Anu and his wife had obviously once enjoyed their quiet game of draughts, for here they are shown recalling earthly pleasures in the cool shelter of a pavilion. Their souls, in the usual bird form, are perching on the roof of their tomb close by, and now that the dead have acquired a 'Sahu,' or spirit body, these souls may be regarded as separate entities.

From the Papyrus of Ani by permission of the Trustees of the British Museum

boat, and then became the companion and scribe of the god. In the process of time the theorising priests made the Pharaoh displace Ra himself.

Each day the Pharaoh sailed on the Celestial Nile which flowed from east to west. Its water was "the water of turquoises," the turquoise being a stone sacred to the goddess of the sky who had had her origin in water. At sunset, the boat entered the dark Underworld (Duat or Dewat), passing along the subterranean Nile, which had twelve hour-divisions. The first hour was entered through a wall of "solid darkness," but this division and the divisions that followed were brightened by the presence of the sun-god. In their "books" the priests revelled in long and tedious descriptions of the various "hours."

The souls of the different classes of men dwelt in these, watched over by gods. They welcomed and adored the sun-god



SADLY MINDFUL OF ITS BODY STILL

In its beatified state the soul was free to revisit the body it had quitted, should it so desire, and was even credited with being able to re-animate it; it is shown above fluttering down the shaft of the tomb in its guise of a human-headed hawk. Compare the photograph on page 1173.

After a drawing by Déveria

who brought them light. When Ra passed into the next division, the souls wept for Osiris in the darkness and "tore their hair in sorrow." In one division there were "pools of fire," and there the wicked were tortured because while they lived on earth they had been the enemies of Ra, guilty of blasphemies and of frustrating his decrees. Some were decapitated, others were drowned in the abyss, others were tortured in pools of boiling water or of fire, or were constantly wounded by malevolent demons armed with knives.

As Ra passed through the Underworld he had to overcome many enemies, including the monstrous Apép serpent, the devourer of souls, gigantic lizards, composite wonder-beasts, fire-spitting snakes, and so on. The Egyptians dreaded poisonous serpents, and there are many serpent charms in the Pyramid texts, the "Book of the Dead," etc. On emerging from the Underworld, the sun-god and his scribe, the Pharaoh, sailed to the "Field of Life," and were purified, fed, and refreshed before passing again through the gates of dawn to brighten and rule the world. This conception is as old as the Pyramid Age, but fresh details were added from time to time in later ages.

The Solar Paradise was in early times reserved for the Pharaoh alone. It was to ensure longevity for him that the hymns and magical texts were inscribed in Pyramid tombs. On earth he reigned as a god, and after death he became the companion of, or substitute for, the deity of the sun who controlled the seasons and gave high Niles and abundant crops. But after the Cult of the East was fused with the Cult of the West all those who were mummified were supposed to reach the "Field of Life," the Celestial Paradise to the east of the sky.

Osiris, the pre-dynastic king, who was also credited with having framed good laws, was the first to discover the path which led to the Paradise which lay parallel to Egypt in the West. In the valley of his Paradise, surrounded by hills and watered by the Celestial Nile, he also introduced agriculture and the culture of fruit trees, and there he became the Judge of the Dead. The souls had to work in this Otherworld as on earth, but their efforts were abundantly rewarded, for great crops were grown and trees yielded constantly richer fruit than grew in Egypt. Happiness and contentment prevailed.

But this Paradise was denied to sinners and law-breakers, for the idea had emerged in Egypt, some sixty centuries ago, that salvation was obtained through "works." Before being admitted to that rich and beautiful Wonderland, that more glorious Egypt, the dead had to be tried and tested in an initiation ceremony which, as time went on, grew more elaborate. The dead man was first admitted with ceremony to the Judgement Hall in which Osiris was enthroned and equipped with his symbols of office. Beside him stood the goddesses Isis and Nephthys, while round the hall were seated the grim deities of the various nomes (provinces) of Egypt. In the middle of the hall stood the great Balance, delicately adjusted, on which the heart (mind and conscience) of the dead was weighed against the feather-symbol of Truth by the falcon-headed god Horus and the jackal-headed god



THE DESTINY OF KINGS AND WIVES OF KINGS

The lot of Pharaoh and his queen in the Otherworld was more glorious than that of other mortals, although, one would think, less satisfying. Isis herself, in this tomb painting from the Valley of the Queens, brings the ankh, or sign of everlasting life to Queen Nefertari, wife of Ramesses II, thereby acclaiming her an equal of the gods.

Photo by Gaddis & Self, Luxor

Anubis, while the ibis-headed god Thoth acted as recorder. Beside the Balance crouched the Destroyer, a female demon with the head of a crocodile, the body of a hippopotamus, and the hind legs of a lioness, who devoured the unworthy.

The dead man was solemnly conducted by Horus into the Judgement Hall, and in the deep silence he hailed and adored the mute and stern Osiris as the "Lord of Truth." Then he recited a formula, which has been called a "Negative Confession"—a proclamation of his innocence

of forty-two sins, including lying, deceit, theft, immorality, murder, oppression, cowardice, the diversion of canal-water from a neighbour's land, the extinguishing of the sacred fire, and the interference with the sacred fishes, birds, and herds of the gods.

When the confession was heard Osiris and the other gods still remained mute. Then, in the tense dramatic stillness, the heart was weighed in the Balance. If the dead was found to be justified, he was conducted to Paradise; if found to be a sinner and law-breaker, he was devoured, or was transformed into a black pig, an animal abhorrent to the Egyptians, and driven to the place of punishment and annihilation.

The dread of this terrible ordeal in the Judgement Hall of Osiris haunted the minds of the ancient Egyptians. "He who is yonder," sang a pessimistic poet, "shall seize and punish the doer of evil. . . . He shall be a wise man indeed who is not cast out." The confession might be learned by rote, but who, the sinners asked in fear, could stand the all-revealing test of the Balance?

The priests, however, found a way out of this difficulty by providing a scarab, inscribed with a magical charm, which would prevent the heart crying out, as a conscience, truthful but terrible accusations against the man on trial. It was here the influence of the solar cult came in, for in its doctrines the dead secured salvation by knowledge of magical charms, and not through works, as insisted upon

in the doctrines of the ancient cult of Osiris, the law-giver, judge, and king. Among the ancient Egyptians there were those who, even as far back as Old Kingdom times, many centuries earlier than Tutankhamen's age, regarded with doubt the priestly promises of bliss in the Otherworld. A wonderful song in the tomb-chapel of the King Intef (c. 2500 B.C.) laments the decay and disappearance of ancient bodies and tombs. It throws doubt on the idea of future happiness and reminds us that

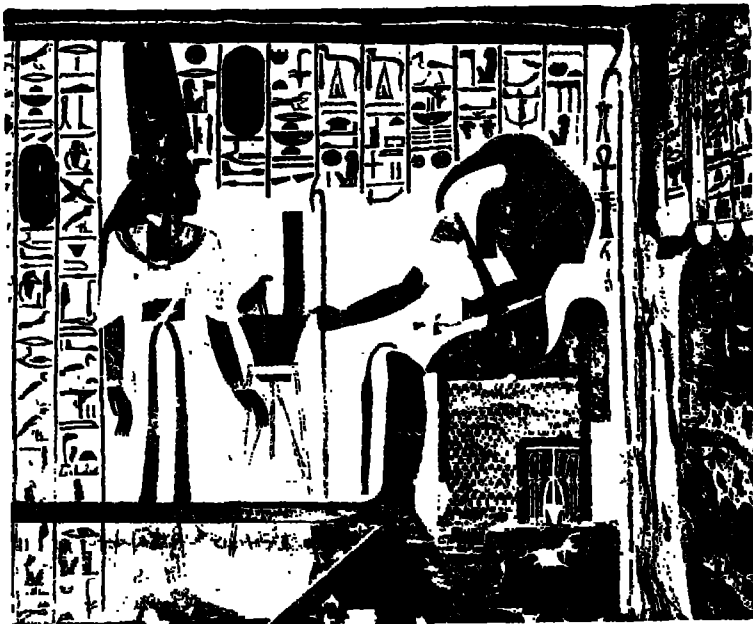
No soul returns to tell us how he fares,
To cheer and comfort us.

The living are advised to enjoy life to the full until that day comes when the mummy

Hears not the cries of mourning at the tomb,

Which have no meaning to the silent dead.

But, perhaps, the most melancholy inscription of all is that found on a funerary stele of an Egyptian lady of the Greek period who advises her husband "to eat and to drink from the cup of joy and love," and not to permit his heart to "suffer sorrow and be pierced" with the thought of death, "for," the inscription continues, "the West is a land of slumber and darkness, a dismal abode for those who dwell in it. They lie asleep, they do not stir; never do they awake again to look on relatives. . . . I know no longer where I am. . . . Alas! if only I had running water to drink. . . . Mayhap it would refresh me and bring my suffering to an end."



THOTH WELCOMES THE ROYAL NEWCOMER

Though counted as one of the gods, and even commanding their obedience, a royal soul must be prepared to shoulder some of the divine responsibilities, as Pharaoh on his daily voyage with Ra in the solar bark. Here Thoth welcomes Queen Nefertari to her predestined home and duties among the gods of her race.

Photo by Gaddis & Self, Luxor



PHARAOH'S SON SHARES HIS FATHER'S GLORY

In the Valley of the Queens at Thebes were buried not only queens, but royal relations as well. This wall-painting shows us Amenherkhepeshef, son of Rameses III., being led by his august father to the company of the gods, as though his welcome was assured with one already half a god as sponsor. The king and his son are shown twice, before Ptah-Tanen on the left and Tuamutef on the right. Note the single lock of hair worn on the right side of the head by minors in Egypt.

Photo by Gaddis & Self, Luxor

The Handiwork of Prehistoric Man

By Dr. R. R. Marett

University Reader in Social Anthropology, Oxford University

ARTISTIC capacity and the gift of aesthetic appreciation are not equally distributed in the human family. Individuals as we know by experience differ greatly in their power of creating and recognizing the beautiful and the same it would seem, holds good of entire nations. Again the general state of culture—the level of economic prosperity, of education, and so forth affords no sure index of the degree of excellence likely to be attained by a given people in the matter of the fine arts. Nay, it may even be that one can only enter the kingdom of beauty as a little child—that the sophisticated mind loses touch with those natural forms which have the power of stirring our deepest and purest emotions. Certain it is that some, though by no means all, prehistoric folk managed to achieve miracles of time-defying beauty with makeshift tools and under conditions which the cave-bear had hardly cause to envy.

That they did it we know, for there can be no doubt about the vast age of these treasures of the past. How they did it we can fairly well make out by studying the flint gravers and borers, the sandstone polishers, the bone tubes filled with red ochre, and so on that they have left behind. Why they did it, however, must ever remain something of a mystery, for it is only by doubtful analogy with modern savages such as the Australian aborigines that we can credit them with totemic and similar notions such as might help to bring out their artistic talents just as religion stimulated art in the Middle Ages. Here it must suffice to note that in three of the four provinces in which the palaeolithic art of Europe reaches high excellence, namely the Dordogne, the French Pyrenees and north-western Spain, only

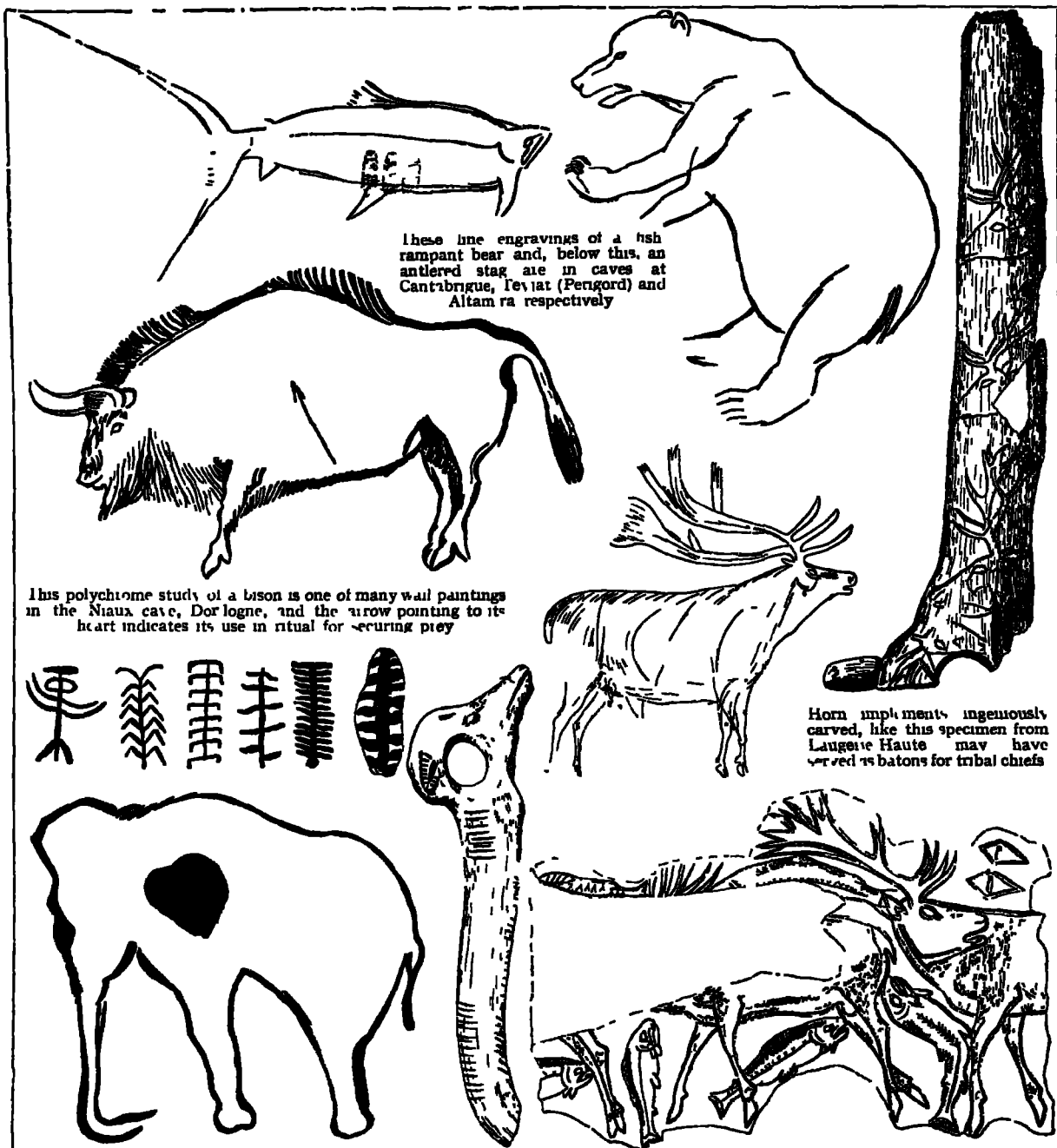
animals claim the best efforts of the cave painter (see colour plate facing page 145), his rendering of the human form being scanty and ambiguous, as if there were a taboo on representing ordinary human beings, whereas in the fourth region, eastern Spain, where a different and perhaps somewhat later style prevails, pointing to the presence of a different race, human subjects are the rule (see colour plate facing page 329) and a less stern and more secular intention can be inferred, the result being splendidly and vividly effective in the light manner of *genre*. Nevertheless, whatever religious convention lay behind the art of the north, it could not cramp it, for naturally in which so obviously rejoice in fidelity to the actual forms of the beast which the hunter so completely followed side with the outland and with the underworld.

To select examples from among so many prehistoric masterpieces must to one's tent be a matter of individual taste. Moreover, one who has actually seen them in the caves is bound to take into consideration the state of their preservation, a factor to be regarded with the greatest care, for the rapid deterioration of the pigments has been a serious factor in the selection of the present book. It is a pity that a large number of the most beautiful and important prehistoric paintings have been painted on the walls of caves which have since been used as stables, for the only way in which you can take a view of these early cultures is from the other end of a long tunnel, or, as the French phrase it, the figures are to the eye a decoration in the distance. Although all always type a sort of surprise is being brought where prehistoric art first came to light in



LIFELIKE STONE AGE STUDY OF A PELICAN

Although less elaborated than the life-size engravings of the cave art, this stone age study of a pelican is an excellent example of effort. It was engraved upon the smoothest surface of the stone, with a few yellowish tints obtained by slight scratching of the patina.

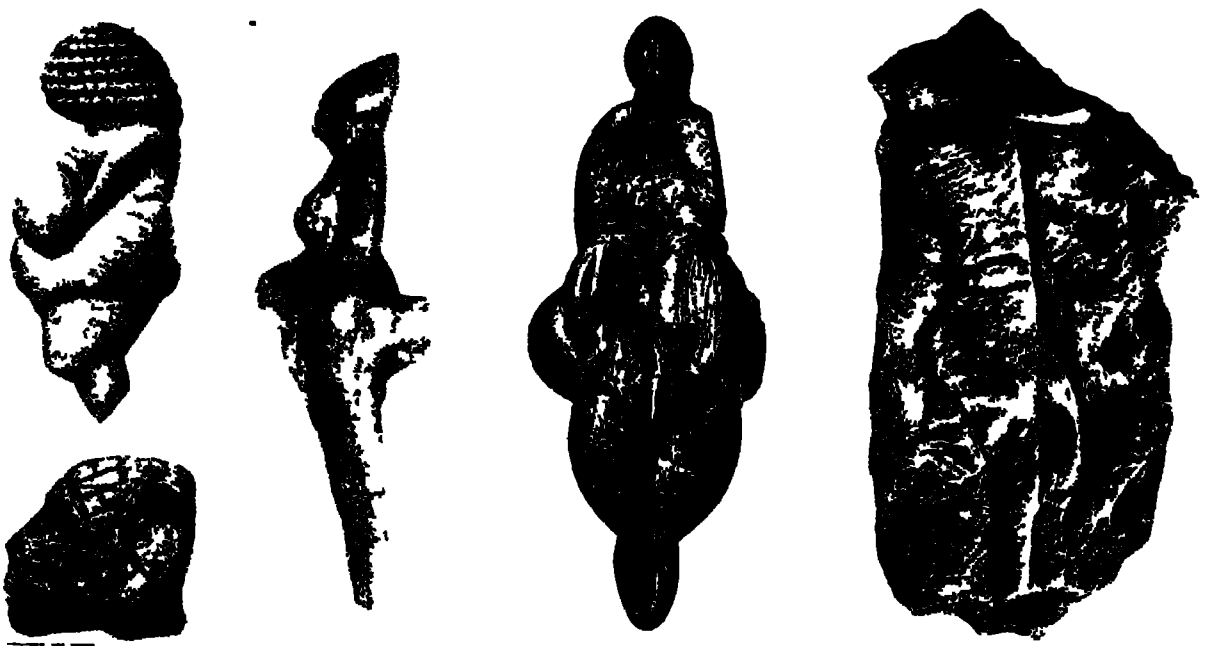


VIVID ENGRAVINGS AND ARTIFACTS REPRESENTATIVE OF MAGDALENIAN CULTURE

All these specimens of line drawing on wall and of implements illustrate the second phase of prehistoric art. The elephant (left) in the Spanish cave of Pindal is interesting as the correct situation of the heart shows that the Magdalenian artists had some knowledge of anatomy. The horn implement with a perforation through its carved fox head was probably used for straightening arrows. The lozenges above the red deer and salmon engraved on the antler (right) from Lortet may represent the engraver's signature. The designs above the elephant are paleolithic versions of human figures, that on the right of the row being painted on a pebble used in some ritual.

1879, a small Spanish maiden delightedly describing 'bulls' on the ceiling and, by the discovery of these grand polychrome frescoes, confirming the belief of her father, Señor de Sautuola, who had already noticed certain rough drawings in black at the far end of the same cave, that here was the

authentic work of the cave-man, a belief which it took him a long time to impress on the learned world. These 'bulls', or rather bisons, mostly in red and black, form the chief feature of this crowded, nay, overcrowded, cave-roof, certain contracted shapes of animals charging or agonizing in their



HUMAN FIGURES OF NEGROID CHARACTER FROM AURIGNACIAN SETTLEMENTS

The general similarity of all Aurignacian statuettes of the human figure to the Bushmen of to-day is so great as to have suggested relationship between the two groups. Woolly and tufted hair are suggested in the two heads (left) the upper figure from Willendorf, showing also the enormous breasts and thighs shown in the statuette beside it from the Grotto of Vache and the female statuette in mammoth ivory from Lespugue to the right again. In contrast to these the bas-relief of the bowman (right) from Tass has a graceful figure.

death struggle being especially ingenious, adapted as they are to the accidents of an uneven surface. Other figures vary in excellence, being indeed in various styles and presumably belonging to more than one age but if the horses and deer are inferior to the bison, there is a wild boar that holds his own with the best of them.

At Niaux one might have expected less attention to form than at Altamira inasmuch as there is every evidence of a magico-religious purpose in the death-dealing darts with which the flanks of the bison, horses and wild goats are liberally sprinkled. But no one who has penetrated nearly half a mile into the bowels of a mountain to flash his lamp on to the high white walls of a sort of cathedral, where stand out in austere lines of rich black these superb portraits from the life without, can doubt that the man who carried the images in his head all the way to that awesome place of darkness was artist no less than mage, that, even if he aimed at some ulterior result, he took a pride in his craftsmanship and knew beauty for what it is, namely truth to nature. And so one might go on picking out from various sites—from Castillo or El Pindal in Spain, or from Teyjat and Les Combarelles in France—innumerable examples of perfect draughtsmanship occurring side by side with less successful efforts. In the mass perhaps, the wall-paintings are sketchy and careless enough to lead one to suppose that they were held to suffice so long as their symbolic function was fulfilled but surreptitiously or not beauty asserted itself as often as a marvellous race—the first known edition of *Homo sapiens*—produced a genius.

Turning to sculpture, one can find in the wide world nothing more majestic than the procession of horses in high relief from Cap Blanc. The five sculptures of human beings from the neighbouring Vache also discovered by Dr Lalanne are perhaps more interesting than beautiful with the exception of the male figure sometimes but improperly known as that of the bowman. In estimating the attractiveness of the numerous figurines representing the female form allowance must be made for the diversities of human taste in this respect and whatever may be thought of statuettes that might at most appeal to a Hottentot or Bushman there is certain gracefulness in the head of the lady with a chignon from Brassempouy while Lespugue has recently produced a tall and elegant female figure the features however, being slurred, as they likewise are in the case just mentioned. Finally, nothing could be finer in the way of sculptured relief though the material is doubtless especially plastic than the pair of bison, male and female, from Lucy Audoubert the imprints of dancers set close by suggesting that they were the objects of a fertility ceremony. Even so, due attention has been given to artistic expression whereas at Montespan where sacred rites are also in evidence the clay figures of animals are coarse in the extreme as if religion favoured at it times and at other times repudiated it as a luxury.

No account of the prehistoric quest for beauty would be complete without reference to the carving and engraving found on weapons and other cave furniture—the mobiliary art as it is usually termed. It is incredible what a large number of highly decorated



Cantele Basse, La Vache



Altamira, Cantabria

ANIMAL MASTERPIECES OF PREHISTORIC PAINTERS AND SCULPTORS

An astonishingly fine example of the hunter artist's skill in clay modelling is a pair of bison male and female (top) found at Luc P. Audoubert. They have survived through the ages by the presence of water that has kept the clay moist. Surrounded by human footprints, it is believed they were the objects of a fertility cult. The bearded horse (bottom left) at Niaux in Ariège is especially interesting, because of its resemblance to the wild stallion—Przewalski's horse—still existing in Mongolia. A strikingly modern effect was obtained by the use of polychrome in the bison (bottom right) in the Altamira cave in Cantabria—here slightly accentuated for reproduction purposes. See also colour plates facing pages 245 and 250.

tive objects may be yielded by a single site, Laugerie Basse being an example in point. Whereas the men of the Early and Middle Palaeolithic confined their efforts to chipping flint—though, of course, they may have also wasted their skill on wood that has perished—the Late Palaeolithic folk revelled in softer material, ivory, bone and horn, which responded excellently to the most delicate modelling. Not to speak of the technical skill shown in purely

utilitarian work such as the fashioning of harpoons, there is a subtle mingling of the useful and the ornamental in weapons such as poignards, throwing-sticks and arrow-straighteners (the famous composite scene of deer and fishes from Lortet being on an object of this character), while, again, art for art's sake, unless possibly it be the need for amulets, inspires many other beautiful creations, such as the numerous heads of horses from Mas d'Azil.



Egyptian flint workers excelled all other neolithic craftsmen in skill and ingenuity even making bracelets by peeling thin slabs of flint. Stages in the difficult operation are shown in these flints in fragments which were obscured owing to the development of a fault or fracture.



IMPLEMENTS AND ORNAMENTS FASHIONED BY NEOLITHIC CRAFTSMEN

When one considers the inflexibility of flint and its liability to fracture under impact, the beauty of form and finish achieved in their implements by Neolithic flint workers is really surprising. Almost perfect symmetry is given to the dagger (1) and the serrated blade (6) from Denmark, and to the lance head (4) from Ireland. Of the arrowheads (5, 8 and 9) the long barbed form (8) is the latest in date. Extraordinary pains must have been expended on the artifacts numbered 2, 3 and 7 and their practical utility is so obvious that they can only be assumed to have been made for some ritual purpose.



Herbert Lang, Transvaal Museum, Pretoria

PETROGLYPHIC RECORD OF A TRAGEDY IN THE WILDS OF ANCIENT AFRICA

Like the white rhinoceros shown in page 1066 this dramatic representation of a black rhinoceros tossing a Boskop boy—the South African contemporary of Aurignacian man in Europe—was engraved on hard basaltic rock with a sharp-edged stone for only tool. It is in more shallow bas-relief than the other, but little, if at all, inferior in artistic conception and accomplished execution. While, like all his contemporaries, the artist concentrated on the animal, he succeeded here in suggesting vividly the agony of its human victim clinging to its ear.

Though flint-work has become a secondary interest during the greater part of this period, one must not overlook the Solutrian interlude when delicate laurel-leaf blades, almost certainly of ceremonial value since use must soon destroy them, set up a standard of artistic attainment in this line which ancient Egypt was alone destined to rival later on. It remains to add that the Mousterian culture, attributable to Neanderthal man of the receding brow with its protruding ridges, could show flint work only a degree less refined in execution, as was only natural before the technique of pressure flaking had been invented; while still farther back the Acheulean core-instrument, product of an even ruder method, realizes a symmetry proving that artistry was well awake in man.

It would perhaps be simpler to end here, for although prehistory extends, at any rate as regards western Europe, almost up to the Christian era, it is becoming harder every day to set an upward limit to civilization in the Ancient East; so that architecture, ceramics and metallurgy come to Europe as imported arts, the local developments of which are less interesting than the all-important first beginnings of which so little is yet known. Perhaps

the most genuinely European art of post-Palaeolithic times was the stone work of Scandinavia, with its beautiful daggers and half-moon blades, almost comparable in finish with the best Solutrian or Egyptian work. Spain, again, at the other end of Europe, had great influence as an active source of artistic culture, though here one is in doubt how far what it seems to originate has not drifted up through Africa. Indeed, as regards both Africa and Asia, not to look farther for the moment, it is plain that prehistory will take on a new phase as soon as their secrets have been penetrated. Right down to South Africa, for instance, we are beginning to trace movements of peoples that can be correlated with those of Palaeolithic man in Europe. Thus it is claimed that a white rhinoceros engraved on basaltic rock in the south-western Transvaal (see page 1066) is of Aurignacian age, while other petroglyphs show desert-polish and other marks of high antiquity. Be this as it may, it is clear that human art is as world-wide as it is ancient; so much so that Plato was not far wrong in speaking of beauty as the earliest of the celestial ideas to take an earthly form, thereby kindling in man a sense of his high destiny and ultimate mission.

Ancient Jain Shrines and the Colossus of Mysore

By F. Deaville Walker

Author of "India and her Peoples," etc.

THIRTY-TWO miles from Hassan, in the centre of the Mysore State, is one of the marvels of ancient India, a gigantic human figure hewn out of the solid rock. Standing upon the summit of an isolated hill, with its outline silhouetted against the sky, it can be seen for at least fifteen miles around. For nearly a thousand years this great image has looked down upon the fertile plain beneath. The hill upon which it stands is one of two that guard the pretty village of Sravana Belgola. The loftier of them, Vindhya-giri, is a great dome of smooth granite upon which no blade of grass can grow. Its summit, some 470 feet above the plain, is strewn with mighty boulders and masses of broken rock, one of which, apparently, was utilised by the old-time sculptors and fashioned into the huge figure shown in the accompanying photographs. A large cloistered court was afterwards built around its feet, and this in turn was surrounded with the halls and courts of a temple.

Few tourists ever reach this remote sanctuary, yet there are not many places in South India that better repay a visit. We approached by motor and for many miles saw the great image rising above the plain before us. Owing to motor trouble it was nearly midday when we reached Sravana Belgola. There was little shade in the streets and around the beautiful sacred tank, and none at all on the great bare rock that towers above. The ascent is made by nearly 700 steps hewn in the granite, and as the hill is sacred a priestly custodian politely requested us to take off our shoes and climb without them; we meekly submitted, although the sun beat fiercely upon that mass of granite and the steps were uncomfortably hot to our unprotected feet. Patiently and breathlessly we toiled upwards, yet when we paused for breath the heat of the granite was so painful to our feet that we were compelled to move on again. The steps led through two decorative stone arches and past two or three small shrines, and as we ascended we had a beautiful view of the village below with its temples,

its sacred tank, and its graceful palms. At last we reached the portico of the temple that crowns the summit of the hill, and were glad to pause in the welcome shade. Soon after we entered the open court that surrounds the colossus of Mysore.

The huge image rose majestically before us, in an almost perfect state of preservation despite its antiquity. Its height is over 60 feet; the breadth across the shoulders is 26 feet; the toes are 2 feet 9 inches long, and the middle fingers 5 feet 3 inches. The figure is nude, and stands erect, facing northward towards some particularly sacred shrines on the second hill. The mighty feet rest upon a low pedestal carved to represent an open lotus flower. In order to support the enormous weight of the body, the rock has been left around and behind the legs, and carved in the shape of large ant-hills. A climbing plant, cut in the stone, twines its tendrils and leaves and berries around the huge limbs, and cobras are seen issuing from the ant-hills. Though the lower parts of the legs are short and the shoulders broad in proportion to the body, the figure is remarkably well cut, and the more so when we consider the difficulties those ancient sculptors must have encountered. Owing to its great height, and the absence of any high place from which to get a satisfactory view, it is difficult to see the image in true perspective; especially is this true of the face, which is quite the best part of the statue. The features are regular, the hair is done in spiral ringlets, and the lobes of the ears are very long. Around the pedestal and on the stone ant-hills on either side are inscriptions in several languages, proclaiming that "Chamunda Raya caused the image to be made." This man was minister to the Ganga king, Rajamalla II., who reigned from A.D. 974 to 984, and it seems certain that the figure was hewn about the year A.D. 983—the time when the Saxon king, Ethelred the Unready, was attempting to bribe the Danes with gold. The cloisters round it were built about A.D. 1116.

There can be no question as to how the colossus was made. As it is cut from a single block of

granite it is manifestly impossible that it could have been hauled up such a smooth, steep hill as Vindhya-giri and raised to an upright position. It seems practically certain that a projecting mass of rock on the very summit of the hill was carved into the figure as we now see it—a task from which the Indian mind would not shrink. Dr Ferguson, the distinguished archæologist, says "Nothing grander or more imposing exists out of Egypt, and even there no known statue surpasses it in height, though it must be confessed they do excel it in the perfection of the art they exhibit."

The image represents Gomatesvara a Jain saint peculiar to South India. The Jains a religious order that originated about the same time as Buddhism, or perhaps earlier, are divided into two sects—the Svetambaras or 'white clothed,' and the Digambaras or 'sky clothed' (i.e., those who regard nudity as a sign of holiness—a practice now forbidden by law). The Jains of South India are chiefly of the latter class, and this great image at Sravana Belgola belongs to them. It is usual for figures of the Digambara Jains to be nude—a feature which clearly distinguishes them from the



THE SACRED HILL UPON WHICH THE COLOSSUS STANDS

Gomatesvara stands on the summit of a sacred hill called Vindhya-giri. It is a huge dome of granite upon which not a blade of grass grows. The figure was doubtless cut from one of the many crags that project from the hilltop—its head and shoulders are just visible. At the foot of the hill is the pretty village of Sravana Belgola, with its fine sacred tank. The path up the hillside, passing under two stone arches visible in the photograph, is a series of nearly 700 rock-hewn steps.

Photo by F. Desville Walker



ENTRANCE TO THE TEMPLE THAT SURROUNDS THE COLOSSUS

In the fierce heat of India the climb up the sun scorched hill is apt to be very trying, and the hot granite steps burn the shoeless feet—for the hill being sacred visitors are obliged to leave their shoes at the bottom. When the summit is reached the tired traveller is glad to rest in the grateful shade of this temple porch. The temple was built around the image about A.D. 1116. The white and red stripes on the pillars are the sign of a sacred place.

Photo by the Rev. H. Spencer

images of their Buddhist rivals, for images of Buddha, while similar in form, are fully clothed and those of the Svetambaras partly clothed.

This ancient monument, in the stillness of its hilltop shrine, is a most impressive sight, and we stood before it with feelings of wonder and awe. Gomatesvara seemed to be almost a living thing, yet unconscious of our presence. The sculptor's conception was that of a holy man wrapt in contemplation so profound as to be unconscious of the serpents about his feet or the plants winding their tendrils around his mighty arms—oblivious to everything. We seemed to be in the presence of a giant of bygone ages—a giant asleep. Instinctively we trod softly and spoke in undertones lest we should awaken him, for we remembered that he had stood thus for well nigh a thousand years. Ages have rolled over him, ancient civilizations have swept around his feet, contending armies, Hindu and Moslem, French and British, have devastated the plains below. More than a century ago Arthur Wellesley, afterwards the great Duke of Wellington, turned aside from his conquests to gaze at this mysterious, silent figure.

Yet Gomatesvara has remained on his lofty watch-tower, oblivious to it all. As we stood before the unconscious giant a young Jain priest offered a sacrifice of fruit and coconuts on a brass tray before its feet, laying the gifts upon a small stone altar on which a tiny votive lamp was burning. The tell-tale plate of our camera caught him in the act. How diminutive that white clad priest seemed as he stood before the enormous feet of the image! We walked around the court with its images of the twenty-four Jain saints, we visited the numerous side shrines, and climbed to the flat roof of the cloisters to get a better view and another photograph of the great central figure. Then we stole quietly away and left Gomatesvara to his meditations.

An ancient legend tells the following story concerning the colossus: when Chamunda Raya had finally completed the image he resolved to perform the "Panchamrita Snana" ceremony, i.e., the washing of the image with five liquids: milk, curds, butter, honey and sugar. Vast quantities of these things were prepared in many hundreds of pots. But, to the intense annoyance

of Chamunda Raya, when the liquids were poured from a great scaffolding upon the head of the image, they would not flow down below the waist of Gomatesvara, and the intention of washing the image from head to foot was frustrated. Then a celestial nymph appeared, disguised as an old woman, holding the five liquids in a small silver pot, and declared that she would accomplish what the great prince had failed to do. Chamunda Raya laughed, but permitted her to make the attempt; whereupon she poured out the contents of the silver vessel and the sacred fluid at once flowed down and completely washed the image.

Two things resulted: from that time the place has been called Belgola (from "Belliya gola," a small silver pot); and periodically the great image has been washed by its Jain guardians and the pilgrims who gather for the ceremony. The last ceremonies were held in 1887 and 1910.

Great were the preparations made on these occasions. In 1887 the Kolhapur Swami spent 30,000 rupees on the ceremony. A huge scaffolding was built behind and around the image, leaving the front free. Multitudes of Jains assembled from all parts of South India and even from the north, journeying hundreds of miles to be present. There were Bengalis and Gujaratis as well as Kanarese and Tamils, and so great was the eagerness that some of the pilgrims arrived at Sravana Belgola a month before the appointed time. For several weeks there was daily worship in all the temples of the village and before the feet of the image itself; and when all had gathered there must have been at least 25,000 people. On the morning of the great day, even before dawn, the pilgrims began to ascend the steep steps of the rock in order to get good places for the ceremony. By ten o'clock all the available space in the courtyard and cloisters, and on the roofs of surrounding temple buildings, was crowded to excess. Among the worshippers were large numbers of women and girls in very bright costumes, carrying brass or clay pots. Bright yellow "paddy" (rice) was strewn before the idol, and upon it were laid a thousand gaily painted earthenware vessels filled with sacred water, covered with coconuts and decorated with many leaves. On the top of the scaffolding stood several Jain priests with pots of ghee, milk and such things, and at a signal from the master of ceremonies the contents of these pots were poured simultaneously over the head of the image. This was only a preliminary washing. The grand bath took place at two o'clock. At that hour, amid the great noise of many strange instruments, the thousand pots already mentioned were lifted from before the image and passed from hand to hand up the scaffolding; then, while

some priests chanted texts from the sacred books, others poured the contents of the vessels over the head of the ancient colossus. In this anointing fifteen different ingredients were used, viz.:

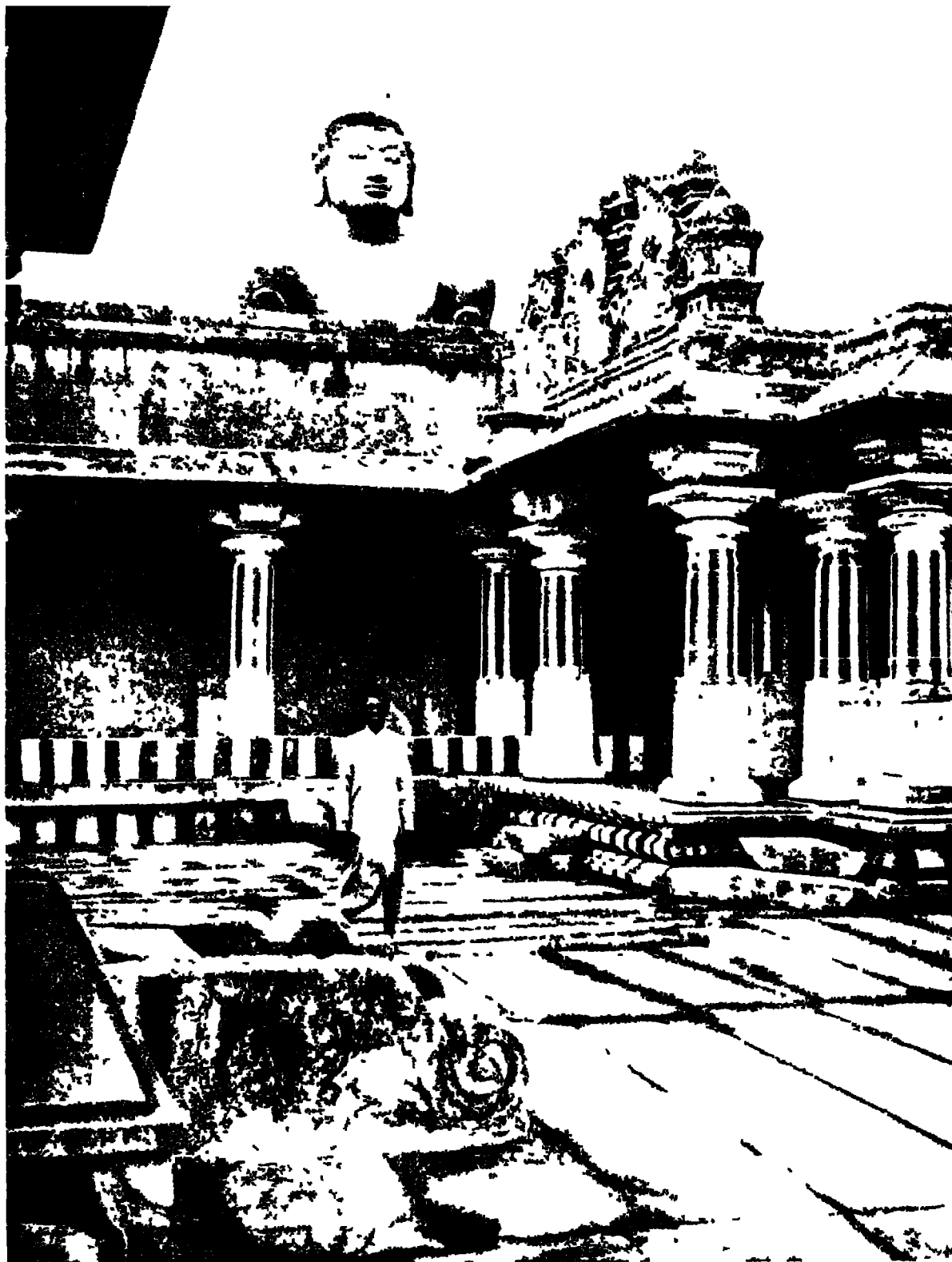
Water.	Sugar.	Curds.
Coconut meal.	Almonds.	Sandal.
Plantains.	Dates.	Gold flowers.
Jaggory.	Coffee seeds.	Silver flowers.
Ghee.	Milk.	Silver coin.

The silver coins amounted to five hundred rupees. All the while the worshippers, their faces turned to the image, were crying: "Jai, Jai, Maharaja!" (Victory, Victory, Great King). Sometimes the right to pour a pot of the sacred mixture over Gomatesvara is auctioned to the highest bidder and brings in a very large sum of money towards the expenses of the festival. It was during this 1887 washing that the great idol was measured, the scaffolding making it possible.

The 1910 washing was marked by a new and characteristically modern feature. The presence of so many Jains at Sravana Belgola was made an opportunity for a conference at which religious, social and educational matters were discussed, and a number of reform measures were under consideration. Among other things it was resolved to organize boarding schools for Jain children. The conference also gave a good deal of time to considering how best to preserve the sacred colossus. One suggestion was that it should be protected from the weather by a sort of huge glass case; but this proposal was rejected, not, be it noted, for the mundane reason of impracticability, but because such a scheme would imply a claim to greater wisdom than was possessed by the revered ancestors who made the image. "If they had considered it necessary, they would have erected such a glass canopy, or at any rate would have left funds for its erection. Who are we that we should know better than they?" On the whole the conference favoured more frequent washing ceremonies under the belief that they have done much to preserve the venerable image.

This colossal image is not the only one of its kind, but it is by far the largest and the oldest. There are two complete smaller rock-hewn figures of Gomatesvara in South India; one is at Karkala and the other at Yenur, both in the South Kanara district; and there are also several unfinished ones. The image at Karkala is about 41 feet high and dates from A.D. 1431, while that at Yenur is 37 feet high and was erected in A.D. 1603.

Quitting the presence of the colossus, let us descend the rock steps of Vindhya-giri. In doing so, we get wonderful views of the sister hill, Chandra-giri, that rises precipitously on the other side of Sravana Belgola village (see page 1080). It is somewhat lower than Vindhya-giri, but even



HEAD OF THE COLOSSUS RISING ABOVE THE TEMPLE COURT

Taken in the outer court of the temple, this photograph shows the head of the image rising high above the cloisters, standing as it does on the hilltop, it is visible for more than fifteen miles around. An inscription (part of it is visible on the rock to the left of the image in page 2078) proclaims that it was made by order of Chamunda Raya, who was prime minister to the Gangai king, Rajamalla II. The date of erection was about A.D. 983.

Photo by the Rev. H. Spencer



AT THE FEET OF GOMATESVARA

The author was permitted to photograph this young Jain priest in the act of presenting an offering before the huge idol—a small tray of fruit and coconuts. A brass lamp burns on the tiny square altar and in the background are seen the enormous feet and legs of the image. In the foreground is part of the great rock-hewn lotus flower upon which the figure stands.

Phot. by F. Deville Walker

more sacred and literally strewn with ancient temples and numerous rock-hewn inscriptions. Again the ascent is by a long series of steps, and again our shoes have to be left at the bottom, although the points of archaeological interest are sufficient to occupy us for many hours, or even days, if we are to examine them thoroughly.

The sanctity of this hill dates from the third century B.C., and happily much of its story has

been revealed to us by the inscriptions, no less than 145 of which have with immense labour and great skill been patiently copied and translated by Mr. B. Lewis Rice C.I.E., M.R.A.S., Director of Archaeological Researches to the Government of Mysore. Several years were required for the completion of this task.

The story is a strange one. Somewhere about the year 290 B.C. a famous Jain teacher, Bhadrabahu by name, led a big migration of Jains from North India towards the South to escape from a period of twelve years' famine which he himself had predicted. One of his disciples was named Chandra Gupta, and it seems practically certain that this was none other than the famous Maurya Emperor (the Sandrokottos of the Greek historians) who reigned over vast areas of North India from 315 to 291 B.C. and was the grandfather of the great Emperor Asoka. Jain tradition declares that on the night of a full moon Chandra Gupta had sixteen dreams which were interpreted for him by Bhadrabahu. The prediction of a famine in which numbers would die of starvation still further impressed the Emperor.

He resigned his throne, took the vows of asceticism and accompanied Bhadrabahu and his 12,000 pilgrims in their southward migration. On reaching what is now Mysore State they drew near to the twin hills that overshadow Sravana Belgola. Here it was revealed to the teacher that he was about to die, so sending his followers onward and keeping with him one attendant only, Chandra Gupta, he climbed the smaller hill and died in a cave.



CARVED BODILY FROM A HILLTOP: THE COLOSSUS OF MYSORE

Compare the size of this vast image with that of the men standing by its toes! The fingers alone are 5 feet 3 inches long, and the total height is over 60 feet. It was carved nearly a thousand years ago from the living rock the masses of granite left around the legs to support the enormous weight represent giant ant hills. The figure is of Gomateswara a Jain saint, he is supposed to be wrapt in meditation and heedless of the creepers that have wound their tendrils around his mighty limbs.

Photo by F. Deaville Walker



SACRED HILL UPON WHICH MANY JAIN ASCETICS HAVE STARVED THEMSELVES TO DEATH

The village of Sravasti is a steep ascent hill on both sides. The colossal statue of the southern hill (Siddhi) is shown in picture 1074. This picture shows the still more sacred northern hill (Kudra) which lies on the opposite side of the same great tank (see the two photographs) and the temple which is up of the present Jain temples on its western shoulder—here the left background. There are also numerous rock-brown inscriptions recording, how in ancient times, the various (both male and female) committed religious suicide by starving themselves to death in this sacred spot. Of these self-immolations there are numerous pillars, as the hills and the lake of the rock.

among its rocks. The erstwhile emperor remained and for at least a dozen years practiced austerities upon the hill where his master had expired. We read of him spending his time worshipping his master's footprints, his hair grew to a thick mass, and he sustained life by eating roots and berries. There in his solitariness he died.

From that time the hill acquired a very special sanctity. It was called after the imperial ascetic, Chandra giri. The cave where Bhadrabahu died was revered and is still shown, but the spot where Chandra Gupta breathed his last became even more sacred. A small "basti" (Jain temple) was built to mark the place and this still exists (see page 1083). It is very small, the internal measurements being only 19 feet by 15 feet, and it is difficult to decide its date. Although it has been somewhat altered, it is undoubtedly very ancient. A remarkable stone screen was afterwards built in front of it (see page 1085, giving in ninety small panels of bas-relief, the story of Bhadrabahu and Chandra Gupta. This screen also is ancient, but it appears to have been subsequently rebuilt. Then a later temple and a pillared portico were built in front of it and the whole shrine was partly hidden.

Meanwhile strange tragedies were taking place on that hilltop and were recorded for us by numerous inscriptions arrayed all round the little shrine of Chandra Gupta. With few exceptions they are in what are called Old Kanarese characters and are engraved either on the rough faces of rock where they have been exposed to the weather of centuries, or else on prepared slabs or pillars and covered by "mantapas" (i.e. small stone pavilions) to protect them. These inscriptions are very numerous and date from the remote times of Chandra Gupta (the earliest authenticated date in Indian history) to as late as 1830. They deal with the exploits of old kings, the building or enlargement of the temples around and with the deeds of Jain ascetics who dwelt and died upon this hill far from the ordinary ways of mankind. Not a few relate the startling fact that here, around the shrine of Chandra

Gupta, men and women deliberately starved themselves to death as an act of merit. As Jains they were forbidden to take life, so to get over that difficulty there arose the idea of suicide by slow starvation as an act of religious devotion. It is terrible to think that centuries ago men and women lay on these rocks waiting for death to release them from the existence they despised and from which they sought to escape. In some cases the length of time they held out is mentioned in the inscription. Here are two or three of these tragic records.

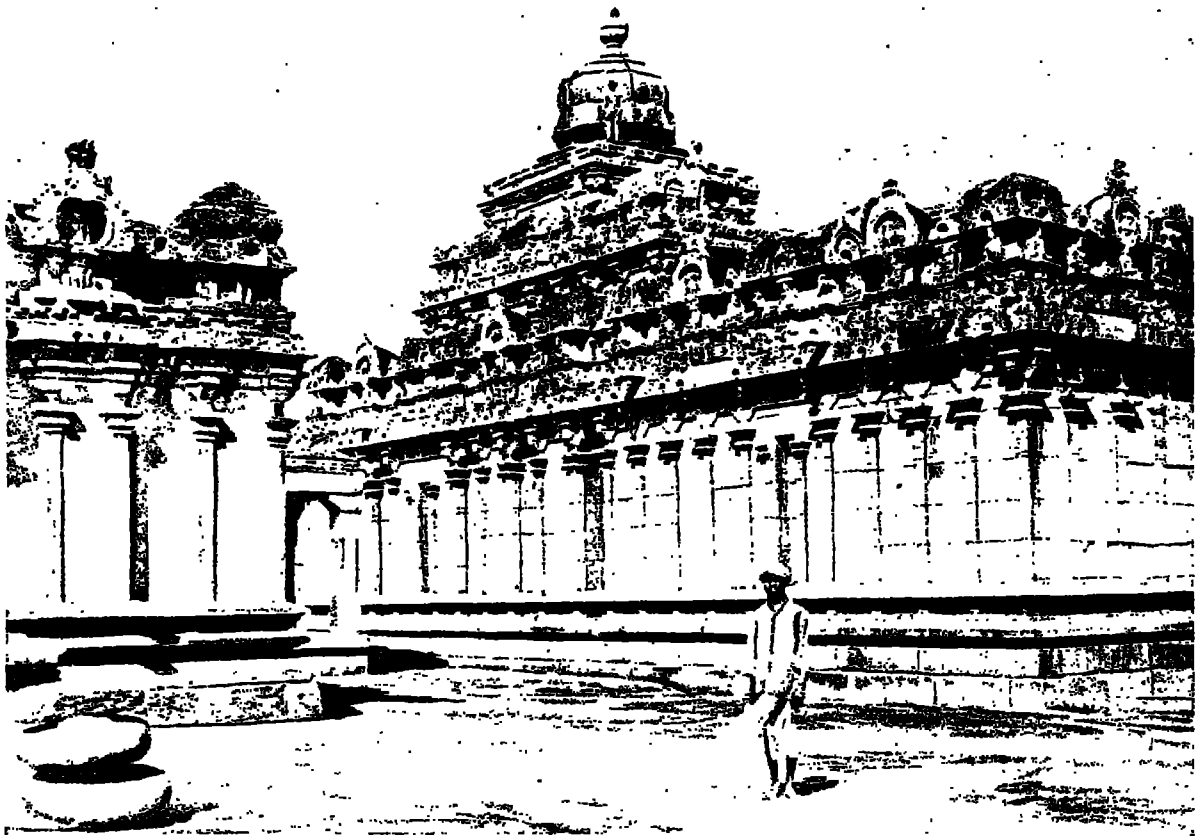
- No 2. Nagamati Ganti (female) disciple of the excellent Silent Guru (teacher) having kept the vow three months expired.
No 5. Be it well, the fortunate (happy) Jambun having kept the vow a month expired.



PREPARING TO WASH THE MIGHTY IMAGE

At intervals of a number of years the colossal is with great ceremony washed from head to foot with a mixture of ghee (clarified butter), milk, sandal-wood and other things. For this purpose a huge scaffolding is erected round the image to enable the priests and worshippers to pour the sacred fluid over the head.

Photo by the Rev. H. Spencer



ONE OF THE FIFTEEN TEMPLES ON CHANDRA-GIRI

The ancient Jain temples on the sacred hill of Chandra-giri are all very small, for instance that of Chandra Gupta himself (see following page), but they are richly decorated with finely carved stonework. The photograph shows the largest of them. The highest structure surmounted by a small dome covers the shrine; before it is a pillared hall or portico; and in front of that (not shown in the picture) an imposing entrance porch with steps. The corner of another "basti" is seen to the left.

Photo by the Rev. A. R. Slater

No. 13.—"The guru of Talekadu, with a great mass of matted hair . . . having kept the vow of a Sannyasi twenty days, expired."

Another inscription—a very long one—tells of the mother of a dead queen journeying to this hill to perform the grim sacrifice, and several verses are devoted to glorifying her act:—

No. 53.—"The queen has attained to godhead; it has fallen to me to remain." Thus saying, she came, and in Belgola by severe penance this mature Machikabbe herself quitted (her body). With eyes half closed, repeating the five words . . . fasting for one month, Machikabbe herself attained godhead by means of her penance in the presence of all the blessed."

An old Jain book gives the following regulations for this strange practice of "sallekhama" (religious suicide): "He should by degrees diminish his food and take only rice seasoned with milk. Then, giving up the milk, he should gradually reduce himself to only a handful of water. Then, abandoning even the handful of liquid, he should, according to his strength, remain entirely fasting; and thus, with his mind intent upon the five kinds of reverence, should by every effort quit the body." Mr. Rice, who spent years in translating and

studying these strange inscriptions at Sravana Belgola, writes: "They are painfully plain as to the main object for which they were recorded. The bitterest satirist of human delusions could hardly depict a scene of sterner irony than the summit of this bare rock, dotted over with emaciated devotees . . . awaiting the hour of self-imposed death."

To-day a number of interesting Jain temples are grouped around the old Chandra Gupta Basti on the hilltop. There are fifteen of them. They are small but striking, and repay careful study. Most of them consist of a main shrine with a pillared hall before it and an entrance portico, usually with a flight of steps. The shrine is surmounted by a richly decorated terraced structure culminating in a small dome. The largest of these temples is barely 90 feet long, 36 feet wide and 50 feet high. The exteriors are all more or less ornate, their blank walls being decorated with pilasters, above which are several rows or cornices of carved stone ornament with Jain symbols and mythological representations. The interiors are very dark, most if not all of the light being



TEMPLE THAT IS A LINK WITH CHANDRA GUPTA AND ASOKA

One of the inscriptions on Chandra giri hill tells how, about 290 B.C., the Emperor Chandragupta grandfather of Asoka the Great, renounced his throne and coming to this lonely hilltop lived here as an ascetic for more than a dozen years. The oldest of the temples called after him the Chandra Gupta Basti (temple) is believed to mark the spot where he lived. It is very ancient and quite small. In the above picture it is just visible between the two larger bastis which at later dates were built beside it.

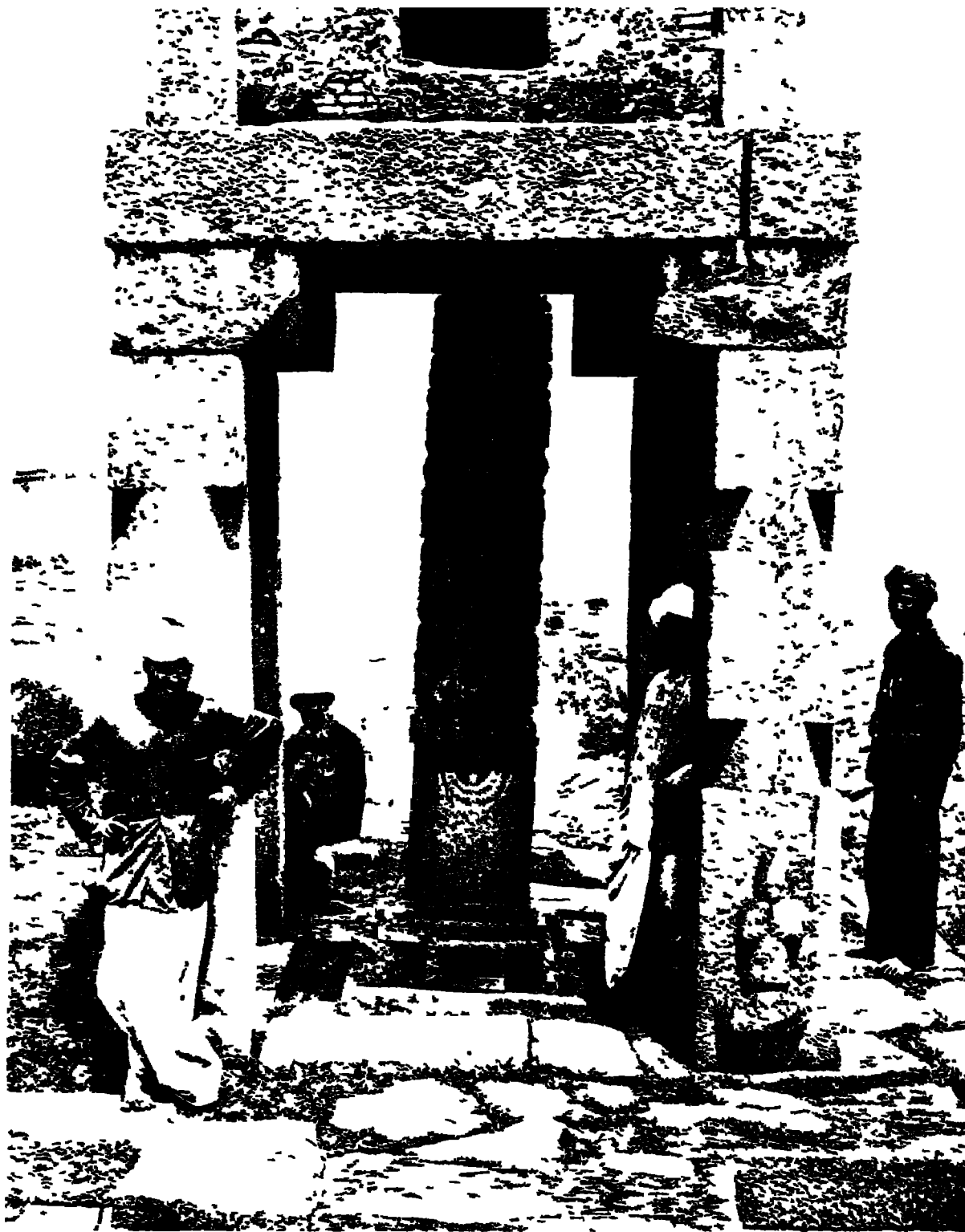
Photo by F. Deville Walker

admitted by the doorways. There are numerous Jain images in and around the temples, and also a small stone figure of Gomatesvara 10 feet high but it is only carved from the head down to the thighs. The most beautiful object of all is a splendid "stambha," or pillar which towers above all the temples. It is of exceedingly graceful design, a fine column with several steps around its base and surmounted with a graceful open lantern used no doubt for giving light to guide the devout to certain religious ceremonies. It appears to have been built about A.D. 973. Although the whole group of temples is enclosed by a wall there is an air of desolation about the entire place. When the writer visited them in 1920 they appeared to be deserted, and he wandered about freely; there were no priests, custodians or worshippers and no offerings lay before the images or about the shrines. But the desertion and neglect are not permanent, for from time to time the temples on Chandra-giri are used for worship, pilgrims come from afar, and at the time of the great gatherings at the ceremonial washing of the

colossus that crowns the opposite hill these old shrines are again crowded with the faithful.

We have dealt fully with Sravana Belgola because its sanctuaries exhibit several very characteristic features of ancient Jain architecture. For example hilltops have a special attraction for the followers of this faith, their most sacred places are usually marked by a number of small temples rather than by one large one. Pillars were very much in evidence (as also with the Buddhists and Hindus) and whenever possible the Jains cut from the rocks great figures of their founders and saints. These characteristics mark Jain worship in other parts of India especially in the north where the Jains have always been most numerous.

The early Jain ascetics made use of caves—again like the early Hindus and Buddhists. The cave (already referred to) in which Bhadrabahu died at Sravana Belgola is one of the oldest known and the important inscription in it makes it more than usually interesting. In Orissa there is a group of very ancient Jain caves situated on two hills, Udaya giri and Khanda giri, and some of these



STRANGE FANTASY OF THE JAINS, A WONDERFUL HANGING PILLAR

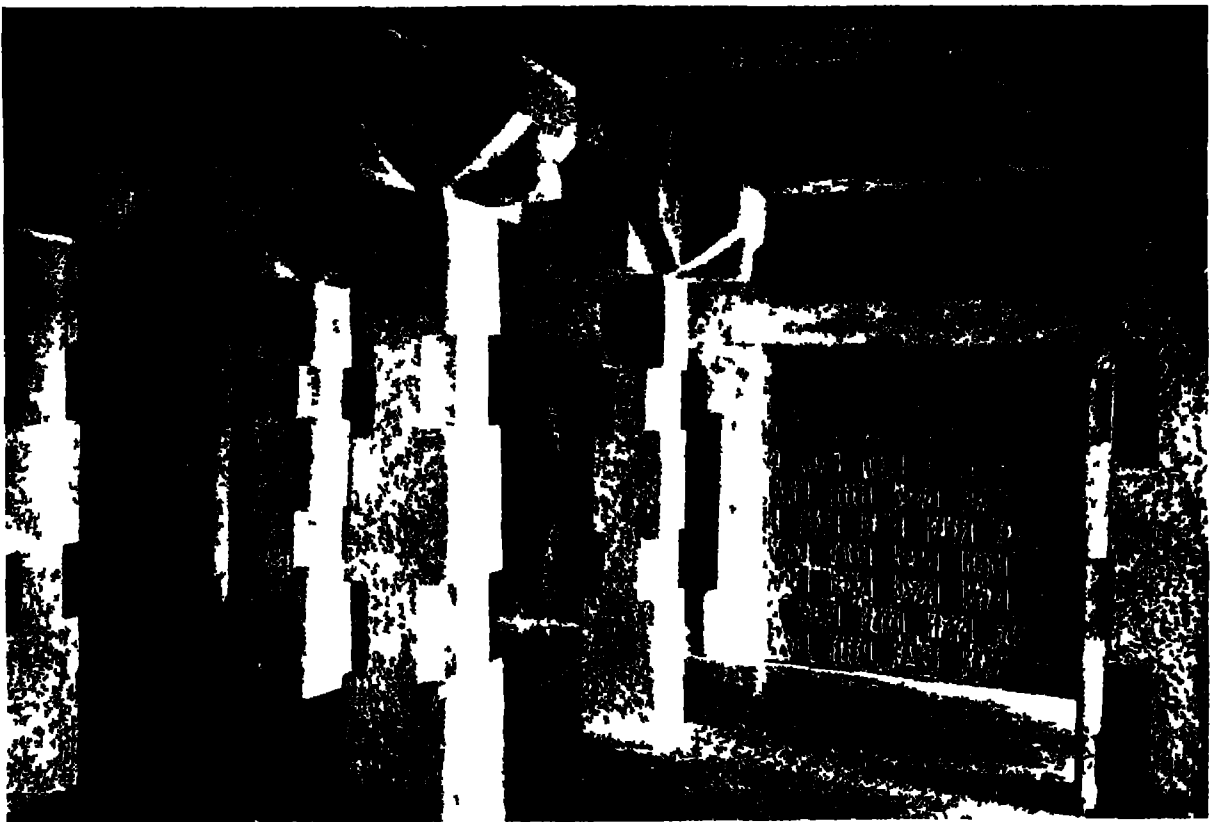
Close to the temple of the colossus is this beautifully carved stone pillar. Though it appears to rest firmly on its base, it is in reality suspended in such a way that it is possible to pass a piece of paper underneath it. On its base Chaturmurti Rava, who made the pillar, placed an inscription about himself and publicly about his image. Unfortunately at a later date, a man named Kanna had three sides of this precious inscription effaced that he might substitute a brief one of his own.

Photo by the Rev. Horwood Ray

date to the second century B.C. perhaps earlier, though others are of later date. One of them called the Tiger Cave is very curious. It is hewn from a huge boulder with its exterior cut to resemble a tiger's head with the mouth wide open. Within is a single cell measuring 6 feet by 9 feet. It was certainly hewn out before the Christian era. Naturally these Jain cave temples show development of design and skill. From the simple cells of the earliest times we can trace the progress to large caves with pillared halls and porticoes and finally to the elaborate planning and exquisite workmanship of the wonderful Indra Sabha cave-temple at Ellora (see pages 294-295).

The sculptured Jain images also show considerable progress of design though the colossus of Mysore is in every way unique. We have mentioned four such images that are cut so as to stand free from the rock from which they were hewn. More usual are the figures cut in the face of some precipitous cliff. Those at Gwalior are a good, though later, example. The famous rock of Gwalior which is about a mile and three quarters

long with an average width of 200 or 300 yards rises sheer from the plain to a height of about 300 feet. Such a hill was naturally taken possession of by the Jains who built their temples upon the flat summit and cut numerous figures in the practically perpendicular cliffs by which it is surrounded. The former have long since disappeared but the latter remain although they have suffered severely at the hands of Mahomedan conquerors and British military engineers. Altogether there are more than one hundred of these figures ranging from quite small ones up to an enormous image 57 feet high—almost as large as the one at Sravani Belgola but less impressive because it does not stand free. All these Gwalior images appear to have been excavated within a space of about 33 years (A.D. 1441-1474) and though of inferior workmanship many of them show progress of design in an ingenious device by which the nakedness of the figure is concealed (see page 1089). Even then they offended the modesty of the great Mogul conqueror Babur and he ordered them all to be mutilated.



HISTORY OF AN EMPEROR CARVED IN STONE

The most remarkable feature of the Chandra Gupta Basti is a very unusual carved stone screen that separates it from the ruins of a larger basti built in front of it. This screen, nearly half of which is visible in the picture, has finely carved panels which give in bas-relief the story of the emperor and his faithful leader, Maharabahu, who also helped in this hill project three centuries B.C. The screen is in almost perfect condition but its base is in ruins. It is only a very faint

Photo by T. Desai & Walker

It is not easy to trace the architectural development of Jain structural temples, for no very early examples have been preserved—nothing that can compare with the early Buddhist shrines of Sanchi or Anuradhapura, illustrated in pages 887-890 and 1004-1014 respectively. Indeed, Jainism can hardly be said to have created a special architecture of its own, for wherever it took root it adopted the local style of building. In North India its temples resembled those of the Vaishnava sect of Hindus, and in South India those of the Saivites.

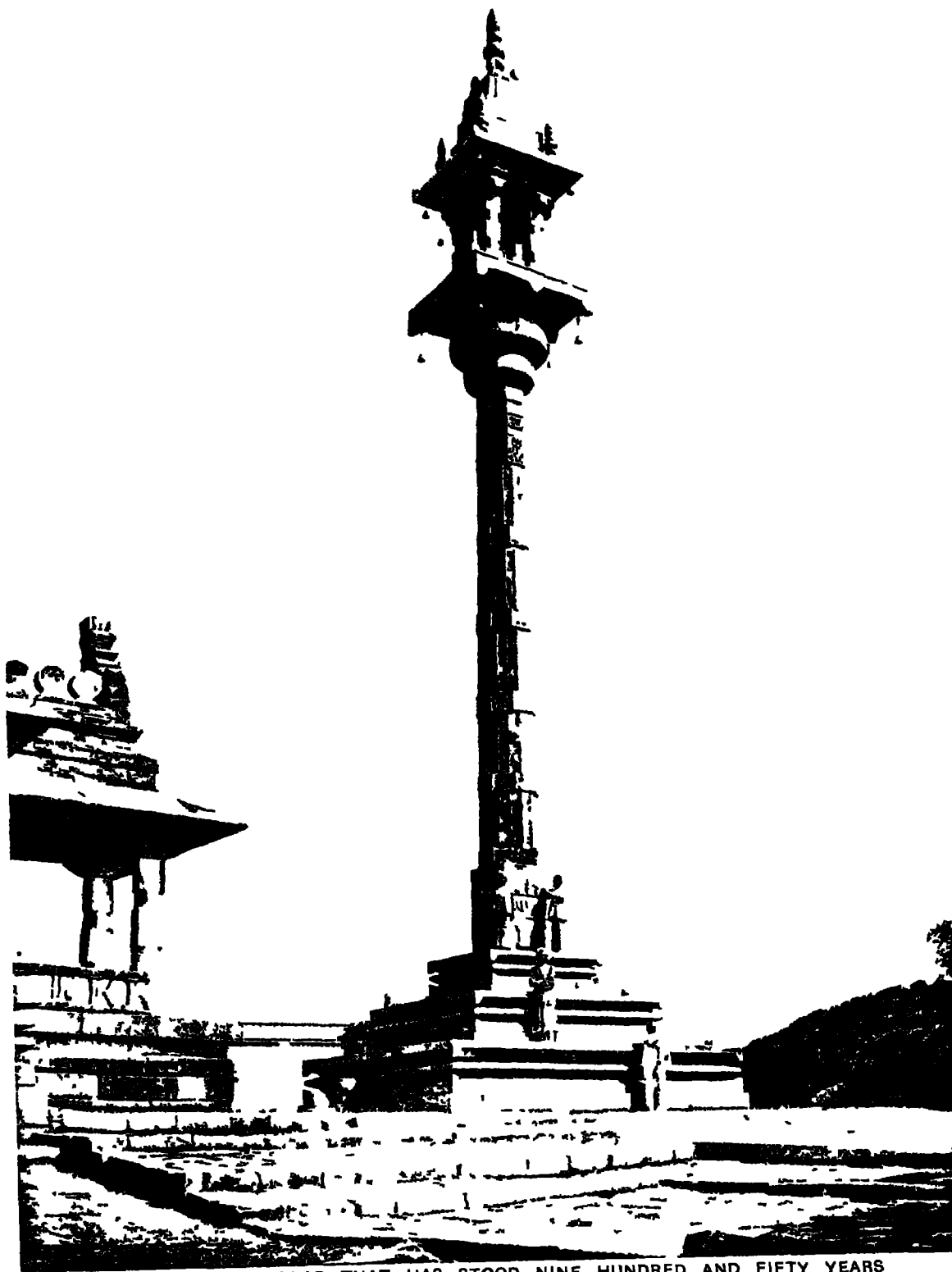
Perhaps the most characteristic feature of Jain architecture is the crowding together of many small temples upon the top of some sacred hill as a sort of "city of the gods." We have already seen an example of this on the summit of Chandragiri at Sravana Belgola. A far larger and more imposing, though much later, instance of this is found upon the sacred hill of Palitana in Gujarat. Here, on two summits of the hill, are no less than eleven groups of temples, each group being surrounded by a high battlemented wall. The total number of temples and small shrines at this place exceeds five hundred, and the number of images of the twenty-four Jain saints is very great and is constantly increasing; forty years ago there were between six and seven thousand of them, not counting the small bas-reliefs and little figures on slabs. There is no doubt that Palitana has been a Jain sanctuary from a very early date, but it is doubtful if any existing buildings date from beyond the eleventh century; indeed, most of them are not older than the fifteenth and sixteenth centuries and onward to comparatively recent years. For this reason, the great sanctuary of Palitana hardly falls within the scope of *WONDERS OF THE PAST*, and is only mentioned here as an important illustration of the undoubtedly early Jain practice of grouping together a large number of very small temples upon a hilltop. The reasons for this are not difficult to understand. Jain worship was, probably from the first, individual rather than congregational, and there was no need for such large assembly halls as the great Buddhist Karli cave already described by the present writer in pages 894-896. Very small temples served the purpose. Again, the Jains, like the Hindus, have always regarded the building of a temple as an act of merit—a prayer in stone. Temple building has been, and still is, believed to be a means of salvation. Most Jain temples, both ancient and modern, have been built by wealthy men of the middle classes who could not, like kings and princes, build on a large scale, and therefore contented themselves with building small ones, taking a keen delight in decorating them as richly as their means permitted. To Jains it is

also an act of merit to restore an old dilapidated temple, and this means that many old ones have been "restored" and so altered that it is difficult if not impossible to discover the original form.

There are, however, a number of large and very fine Jain temples that were built in the greatest era of Jain architecture the centuries preceding the complete Mahomedan conquest of North India. At Khajurho, about 150 miles south-east of Gwalior, for example, are several very fine ones built about the beginning of the eleventh century, notably the Parswanath temple which is one of the most beautiful of its type to be found in India.

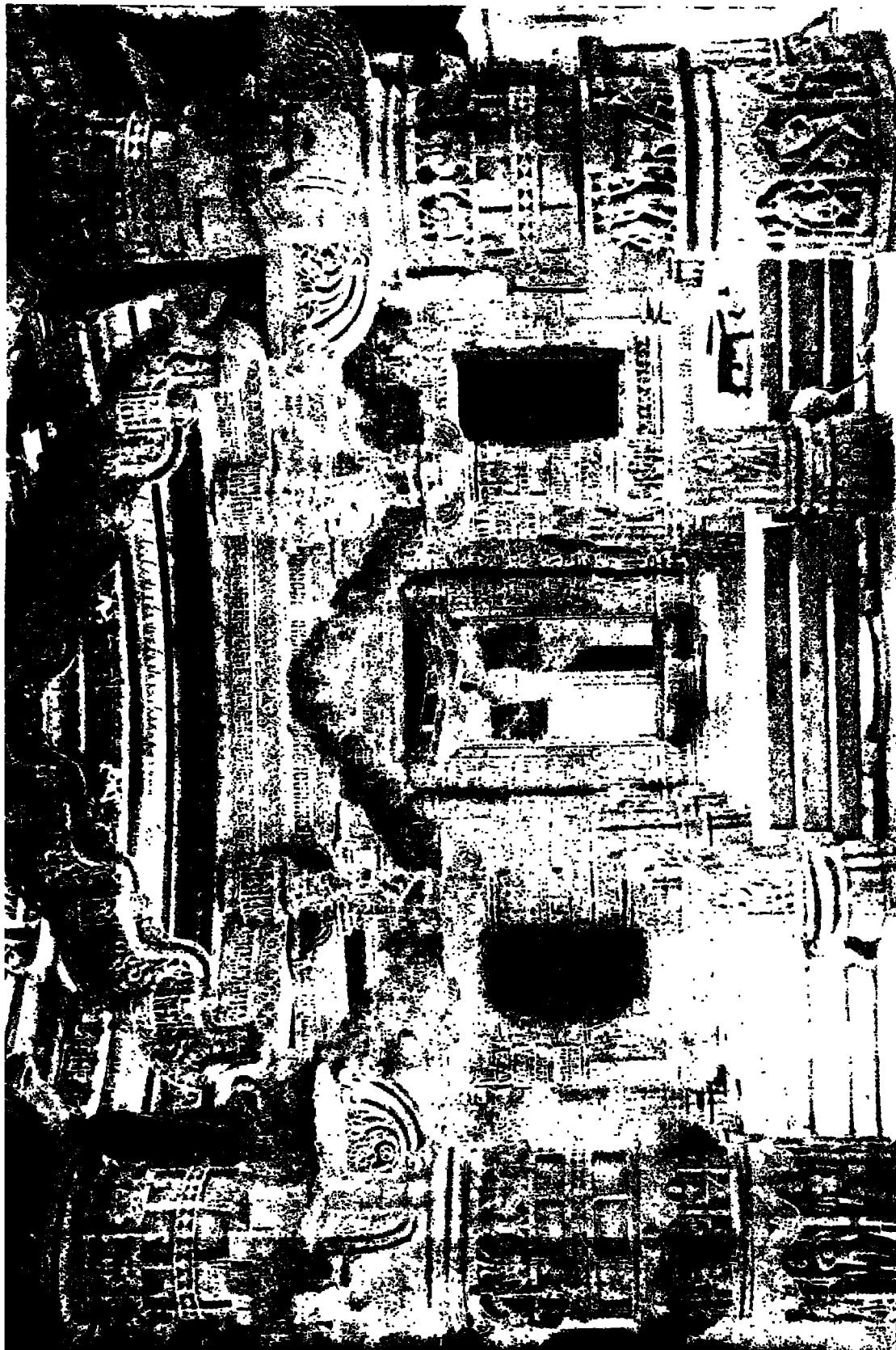
But there are two Jain temples which surpass all others—the magnificent white marble shrines at Mount Abu. This remarkable hill rises abruptly from the Rajputana desert and is surrounded by rugged scarps 4,000 feet high. No wonder that from very early times such a hill was deemed sacred. During the age of Jain supremacy it was adorned with two temples which are unrivalled by any temples in India; the one was built in A.D. 1031 and the other in 1230. Both are entirely of white marble, which is supposed to have been brought from quarries many miles away. The task of transporting the large blocks up such a mountain must have been tremendous. These temples are famous for their splendid colonnades and porticoes, their carved pillars and their magnificent domes. "For minute delicacy of carving and beauty of detail, they stand almost unrivalled even in the land of patient and lavish labour." Their courts are surrounded with fifty-two marble cells, each occupied by an image of one of the Jainas. Perhaps the wonderful domes are the most remarkable feature of both temples. They rest upon octagons formed by massive architraves across the heads of carved pillars, and are formed by contracting circles of marble finished with a delicacy of detail and beauty of ornament probably unsurpassed. In the centre of each is "a pendant of such exquisite beauty that those in Henry VII.'s Chapel at Westminster and in Oxford Cathedral are coarse and clumsy in comparison" (Ferguson). Few things are more difficult to photograph successfully than a dome, and no picture can convey a correct idea of the extreme beauty and delicacy of these ornaments.

Though the details of large Jain temples varied considerably, they followed in the main one general plan: a temple with porches standing in the centre of a large rectangular courtyard, which in turn was surrounded with pillared cloisters, at the back of which were long rows of small cells each containing a figure of one of the Jain saints. One other form of architecture peculiar to this great period is seen in the famous Jain tower at



GRACEFUL JAIN PILLAR THAT HAS STOOD NINE HUNDRED AND FIFTY YEARS
 Among the old temples on the summit of Chandra giri is this beautiful "stambha" or pillar which towers high above all. It appears to have been built about ten years before the colossus on the opposite hill. The pedestal is in the center, and the graceful open lantern at the top was probably used for giving light to guide the devout to certain religious ceremonies. Various indications seem to point to A.D. 973 as the probable date of its erection.

Photo by the Rev. A. R. Slater



WONDERFUL WHITE MARBLE TEMPLE ON MOUNT ABU

On the summit of a lofty hill in Rajputana are two magnificent marble temples that rank among the finest shrines in India. One was built in A.D. 1031, and the other just two centuries later; this is the earlier of the two—the Temple of Vinaya. The marble was brought from quarries many miles away, and the task of transporting the huge blocks up a rugged hill four thousand feet high must have been tremendous. The chief glory of these Mount Abu temples is their splendid carvings; pillars and architraves and domes are all of the finest workmanship. This picture shows the main shrine of the temple, built while Canute was on the throne of England; the magnificent dome may be seen in page 1090.

Photo by the Rev. A. B. Slater



GREAT JAIN IMAGES AROUND THE ROCK OF GWALIOR

About one hundred figures of Jain saints are cut in the perpendicular faces of this famous rock fortress, they vary in size from small ones up to an enormous figure 57 feet high. These Gwalior images are of much later date than the colossus of Mysore and the figures are more "wooden" in appearance. But they show one novel feature: a rock ledge runs in front of the figures to conceal their nakedness; the images of the Digambara sect of Jains are always naked. When the great Mogul Emperor Babar visited Gwalior, his Mahomedan instincts were offended by these figures and he ordered them to be mutilated.

Photo by F. Deville Walker

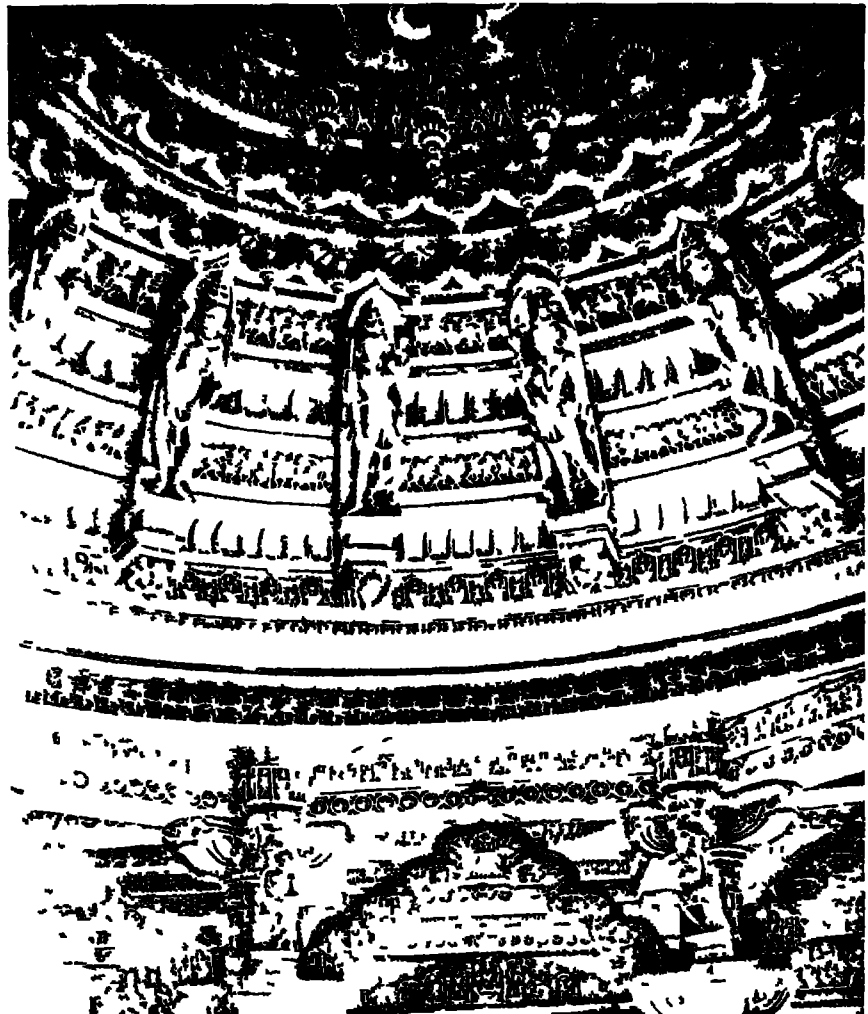
Chitor It belongs probably to the twelfth century and is a singularly graceful building. Standing upon a base 20 feet square it rises in six storeys to a height of 75 feet. Each storey is entirely different from the others both in size and design, the topmost one taking the form of an open canopy with twelve pillars. The whole of this beautiful and unique edifice is covered with a wealth of decoration, amazing alike for its variety, its richness and its restraint, none of it intrudes upon the grace of the whole tower. There is also a second tower at Chitor, built some three hundred years later during a revival of architectural activity after several devastating waves of Mahomedan conquests. It was built in A.D. 1440 as a Tower of Victory to commemorate a great victory over a Mahomedan foe and is considerably larger than its older companion, being over 120 feet high and 30 feet square at the base. It consists of nine storeys, the upper two of which are open and more highly decorated than those below. In outline it is less varied than the older tower, but is exceedingly graceful and although

built by a Hindu it suggests Jain influence. The great Italian campaniles of Florence, Pisa or Venice appear stiff and heavy in comparison with these gems of Indian art. Probably there were similar towers at other places in North India but they have perished. It is not to be wondered at that such elegant structures should fall easy victims to human violence or to the destructive forces of nature, and it is marvellous that these two at Chitor have survived.

It is certain that many Jain temples were destroyed by the Mahomedans. Others probably all very large ones were spared by the invaders and used for their own purposes. It would not be difficult to make the necessary changes, the central temple with its porches would be swept away, leaving the large courtyard surrounded with colonnades, this would require but little alteration, and its "conversion" into a Mahomedan mosque would be complete. It is possible to point to places where this was actually done. There is an outstanding example of it some 19 miles south of Delhi where, about the close of the twelfth

century, an important Jain temple was partly destroyed and partly utilised in the building of a great mosque which was afterwards enlarged, and a splendid Mahomedan Tower of Victory—the famous Kutab Minar—built to serve as a minaret. To-day the pillars of the old Jain shrine are still to be seen and are easily recognisable by their elaborate carving and unquestionably Jain devices. They form a splendid colonnade to the inner court of the mosque and are made the more imposing by domes that also suggest Jain workmanship. It is possible that these pillars may have been moved or rearranged but their origin is beyond doubt and they form one of the many striking features of what was perhaps the earliest mosque in India and which must in its glory have been one of the most magnificent. The great mosques of Ahmadabad and Ajmir also built on the sites of Jain temples contain signs of their former state.

With the Mahomedan conquests the great age of Jain art ended. But when the first waves of invasion had passed there was a revival of it and some notable temples were built. An example of this is the large and impressive fifteenth century temple at Ranpur where no two pillars are alike and the light and shade effect is very wonderful. Some very good examples of Jain temples, produced in modern times, show what Jain



MASTERPIECE OF JAIN ART IN THE TEMPLE OF VIMALA

The finest part of this splendid temple is its beautiful marble dome. It rests upon an octagon formed by massive architraves across the heads of carved pillars, and consists of concentric circles of white marble finished with a delicacy of detail and a beauty of ornament quite unsurpassed. There are seven of the statues of which five are seen in the photograph and in the centre of the dome is a pendant surrounded with a circle of smaller pendants all of exquisite grace and beauty.

Photo by the Rev. A. R. Slater

architects and builders are capable of, if left to themselves. But on the other hand not a few modern Jain temples, like the well-known and much over-estimated one in Calcutta, are feeble and tawdry in the extreme. The greatest age of Jain architecture appears to be in the remote past.

Records of the Tombs. IX.

The Wonder of the Roman Catacombs

By Edward Hutton

Author of "Rome," "Italy and the Italians," etc.

IT has often been remarked that in any historical exploration of the Eternal City as we have it to-day an empty gulf seems to separate Ancient and Christian Rome. For the really primitive churches have for the most part been destroyed or completely rebuilt, so that the earliest Christian monuments left to us are centuries later than the last pagan buildings. This space of time, almost unrepresented in the city as we see it to-day, is filled perfectly by the catacombs, the burial places of the early Christians. Five of these date from Apostolic times; of the rest, the greater number are of the second century A.D.

These lie always outside the walls (for burial within the walls was forbidden) north, south and east of the city for the most part, the more important of them, the Catacombs of S. Sebastian, S. Callixtus, SS. Nereus and Achilleus, and Praetextatus, being beside the Via Appia and its branches. On the Via Labicana to the eastward near the Tor Pignattura, outside the Porta Maggiore, are the Catacombs of SS. Peter and Marcellinus; outside the Porta Portesi, the Catacombs of S. Pontianus; outside the Porta Salaria, the Catacombs of S. Priscilla; and under the church of S. Agnese Fuori, those of S. Agnese. These are the chief of about forty-five catacombs in all. The region in which they lie, always to the left of the Tiber and within three miles of the

walls of Rome, consists of volcanic rock known as "tufa," and it is in the "tufa granulare," which is easily worked, that almost all the catacombs have been excavated.

All of them have much the same character. They consist of an immense maze of subterranean galleries, one above another, cutting one another at right angles, sometimes straight, sometimes winding, now and then leading to or diverging from a centre. These galleries are supported by their tufa sides, and the roof is generally flat, though sometimes very slightly vaulted. In the tufa sides are excavated the tombs or "loculi." Only a fraction of these galleries has ever been explored, and our knowledge of their extent is extremely limited. It has been calculated, however, that they measure not less than 587 miles in

total length and contain at least six million burials.

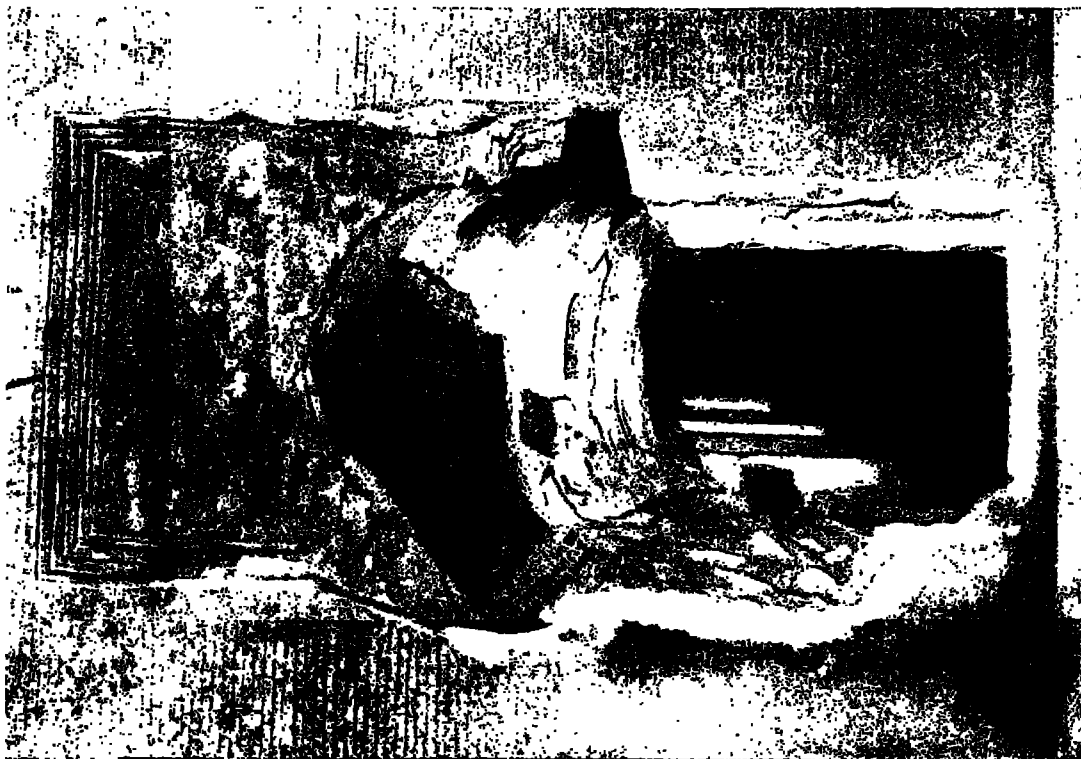
The catacomb was thus the Christian cemetery. But it was more than this; the catacomb, in fact, was the very cradle of Christianity. While the populace of the great capital amused itself at the baths, or grew weary with horror at the Colosseum, the little society of early Christians, driven underground, waited, not without songs—the songs of children mainly, we are told—beside their tombs in these burial places. Gradually these grew outside the city about certain villas along the Appian Way—the villa of Lucina, for



THE GOOD SHEPHERD AND THE SHEEP

In a cubiculum of the Catacombs of S. Callixtus is found this mural painting of Christ, pictorially the Christian evolution of the pagan Hermes. In His tender care He is seen bearing on His shoulder a feeble member of His flock. Outside the enclosing circle are found symbolic figures of birds and fish; there are also paintings representing angels.

Courtesy of E. E. I. T.



SOMBRE AND MYSTERIOUS ARE THE WINDING PASSAGES OF ROME'S SUBTERRANEAN TOMBS
 Within the compass of the vast Cemetery of Domitilla there is a region known as the Hypogeum of the Flavi, a private cemetery of a Christian family of the patrician order. On the left is the entrance to these catacombs and the long main brick-built gallery with crypts and passages opening from it on either side. The other photograph shows the end of a gallery in the same Hypogeum of the Flavi, which branches off the main corridor immediately on the left of the entrance; in this secondary branch is found a circular water-tank, probably a piscina, used by the ancient worshippers of Christ in these extensive underground shrines.
 Photos from "Roma Sotterranea Cristiana," by M. Rucchi



PAINTINGS MADE UNDER ROME WHEN CHRISTIANITY WAS STILL YOUNG

It is a mistaken idea that the early Christians were forced into excavating secretly in the bowels of the earth because open sepulture was denied them; what was forbidden was the celebration of the Eucharist or other such ceremonies at the interment. Indeed, the catacombs were open to all, for it was only to the elect that their symbols had any meaning. Above are seen the figures of Veneranda and Petronilla behind which are the two "loculi" that held their bodies, and below is a brightly painted crypt in the Catacombs of Domitilla.

Reproduced from "Roma Sotterranea Cristiana," by Marquetti.

instance, or the house of Cecilia, places excavated by the householder and inviolable, as were all places of sepulture declared by their owners to be religious. There, in the darkness, lighted only by occasional "luminaria" or light-shafts, they celebrated their mysteries even in the time of the Apostles: the Mass, the "Commendatio Animae," the "Funeralia"—refusing always to speak of the departing brother or sister as dying, but rather as of one summoned or called away, "accersitus," as the beautiful Roman inscription has it: "accersitus ab angelis"—summoned by angels.

There lies the secret of the catacombs—their secret and their charm. The Christian alone in that great Roman world found hope in his heart. Here in the catacombs, for the first time, the power of death was denied. And, as though to prove its new faith, its new certitude, its belief in the hope that it alone had dared to offer mankind, Christianity made its first home in the catacombs, the cemeteries of its dead. They, too, are of our company, it seemed to say, for death is not death but a sleep. "You see," says Lucian, "these poor creatures have persuaded themselves they will live for ever." Their serenity was in contrast with pagan hopelessness and Jewish fussiness. They called the pagans "those without hope." "Spes" (hope) is the word perhaps most frequently found in the catacombs.

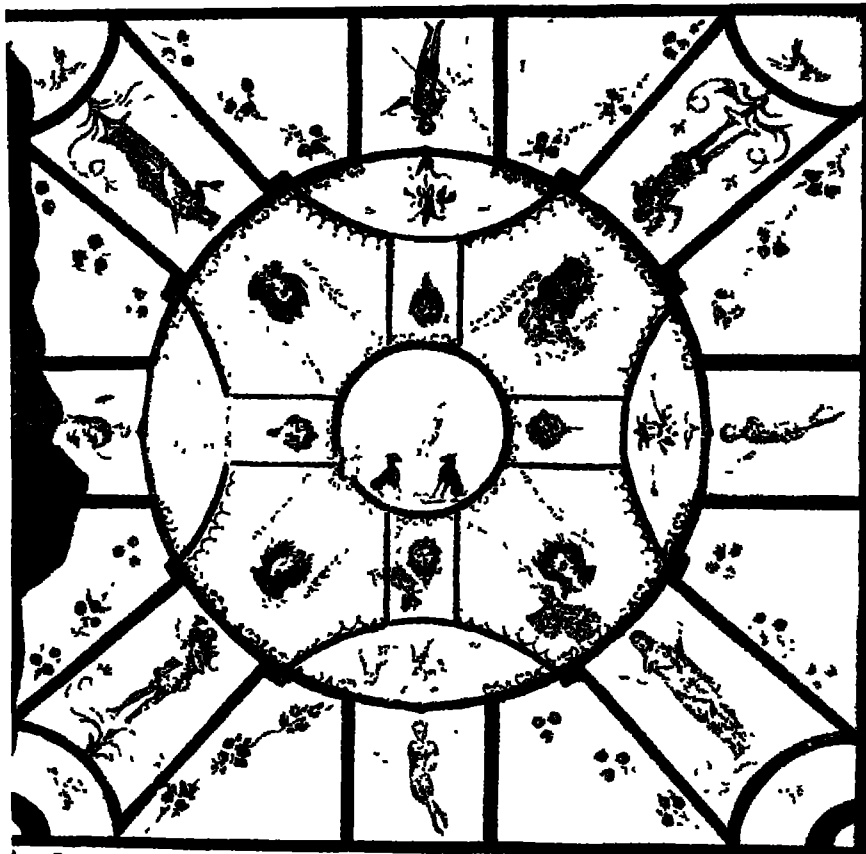
And so, in the periods of persecution at least, these cemeteries, later to bear the names of saints—S. Callixtus, S. Sebastian, S. Balbina—became at once the refuges of the Christians and the cradle of Christianity. There the Christian Church spent its childhood, in those five especially which date from Apostolic times and which were added to little by little, till in the third century we find some forty-five. Only twenty of them remained in the hands of private owners, the rest being under the government of the "Ecclesia Fratrum." Gradually the Church took command, attaching each cemetery to a parish church; and the catacombs, her first possession, remained for ages the most holy shrines in the city. "The people of Rome," writes S. Jerome, "have left the ancient temples covered with cobwebs and rust, the golden Capitol squalid with filth, while they pour out from the city and run to the tombs of the martyrs."

Such a crowd—hardly different perhaps in essentials—goes out of the city to-day by the Porta S. Sebastiano, on January 20 and November 22, for the feasts respectively of S. Sebastian at S. Sebastiano, and of S. Cecilia at S. Callixtus. It is an experience to make part of that crowd and to see the catacombs in such company and circumstances lighted up for the "festa"; but it is not an experience which many

will desire to repeat. In any case, the ordinary traveller will generally visit the catacombs in very different company, as one of a crowd of tourists in cabs and motor-cars, and amid this throng of often indifferent and always bewildered and hurrying strangers it is difficult to understand what one is really looking upon. But let the traveller come along Via Appia in full summer time when the city is almost free of visitors, and in the early morning when the Way is largely deserted; then, it may be, he will understand something of what S. Jerome felt; and, more fortunate still, hear perhaps what Pliny heard, caught almost in spite of himself by that morning song, blithe and fresh like the morning itself, as he passed on his way to the city.

Coming thus to the Catacomb of S. Callixtus on the Via Appia, certainly the most characteristic and perhaps the most important of all, one enters by a little doorway and, crossing the vineyard, comes to a building on the left, an ancient oratory that has been rebuilt and which is known as the Chapel of SS. Sixtus and Cecilia, for it stands over the crypts where they were buried. Here the catacomb or cemetery was reached by two stairways, both dating from the earliest times, and one of these is still in use. In the times of persecution these stairways were closed or destroyed and a secret way provided. To-day, taking a taper and accompanied by the little monk who acts as a very excellent and courteous guide, one descends by a stairway midway between the two ancient ones and comes at once into a little chamber whose tufa walls are honeycombed with graves and covered with inscriptions and "graffiti," or rude mural engravings.

From this chamber one passes along the gallery on the left to the Crypt of the Popes, so called from the tombs of the popes who were buried in it, of whom four of the third century have been identified and two others, Sixtus II. and Urban I., are presumed to have lain here. The "cubicula" or crypts of which this is a large example were chambers usually of small dimensions, excavated in the sides of the galleries. They are of all sorts and sizes and shapes and often they are double and sometimes even quadruple. They were, or at any rate came to be, small churches or chapels, subterranean oratories in which, from the very earliest times of the Apostles, Mass was said, the Eucharistic Sacrifice offered, and where, no doubt, the faithful gathered for various offices of piety, not all concerned by any means with death. They were, in fact, the first churches, and the originals of the great basilicas of S. Agnese, S. Paolo, S. Lorenzo and others. In the centre of the Catacomb of SS. Nereus and Achilleus, for instance,



HOW THE EARLY CHRISTIANS DECORATED THEIR CHAPELS

In one of the six "Chapels of the Sacraments" in the Catacombs of S. Callixtus is found this very beautiful ceiling. Yet it is hardly exceptional for all the decoration of the tombs is of a high standard. In the corners are figures "oranti" (praying), and the central picture is a symbol of the religion that flourished in these underground churches.

Courtesy of H. N. I. E.

may be seen the Basilica of S. Petronilla, a quadrangular and glorified cubiculum, excavated in 1875, with nave and aisles and forecourt and a roof which projects into the air. Not all the cubicula were in darkness. Some were lighted by a shaft called "luminare," and such crypts were known as "cubicula clara." Often there were shafts for air, but these were seldom capable of giving much light.

The Crypt of the Popes in which we stand has been saved to us by De Rossi. The walls were once covered with marble, probably in the fifth century, and portions of this lining and of marble columns may be seen; but originally it was more or less as we see it now, a chamber upheld by its tufa walls, with an altar tomb beside which stood the episcopal chair. Above is an inscription of Pope Damasus of the fourth century who restored this and other Roman catacombs. S. Jerome was his secretary. From this inscription we gather among other things that S. Damasus

regarded the popes buried here as a guard about the altar of Christ. These popes were S. Anterus Martyr, S. Fabian Martyr, S. Lucius Martyr and S. Eutychianus; S. Sixtus II. Martyr also lay here.

From this papal cubiculum we pass into another chamber of irregular shape and well lighted by a large luminare. This is the Crypt of S. Cecilia. Near the entrance is a wall painting of the seventh century in which the saint is represented in a garden of roses in the attitude of prayer. Originally perhaps a mosaic stood here, maybe of the same subject. The picture is entirely covered with "graffiti" scratchings of the pilgrims. Among the names one finds many of priests and one of "Ethelred Episcopus," perhaps a Saxon bishop. Beneath is a niche, once lined with porphyry and now having a painted bust of Christ, and close by is a vested figure of S. Urban, both of the eleventh century. Here, too, was

the tomb of S. Cecilia who was buried here after her martyrdom, and here Pope Paschal discovered her body in the attitude in which Maderna has shown her in his recumbent statue of S. Cecilia in Trastevere whither Pope Paschal transferred her.

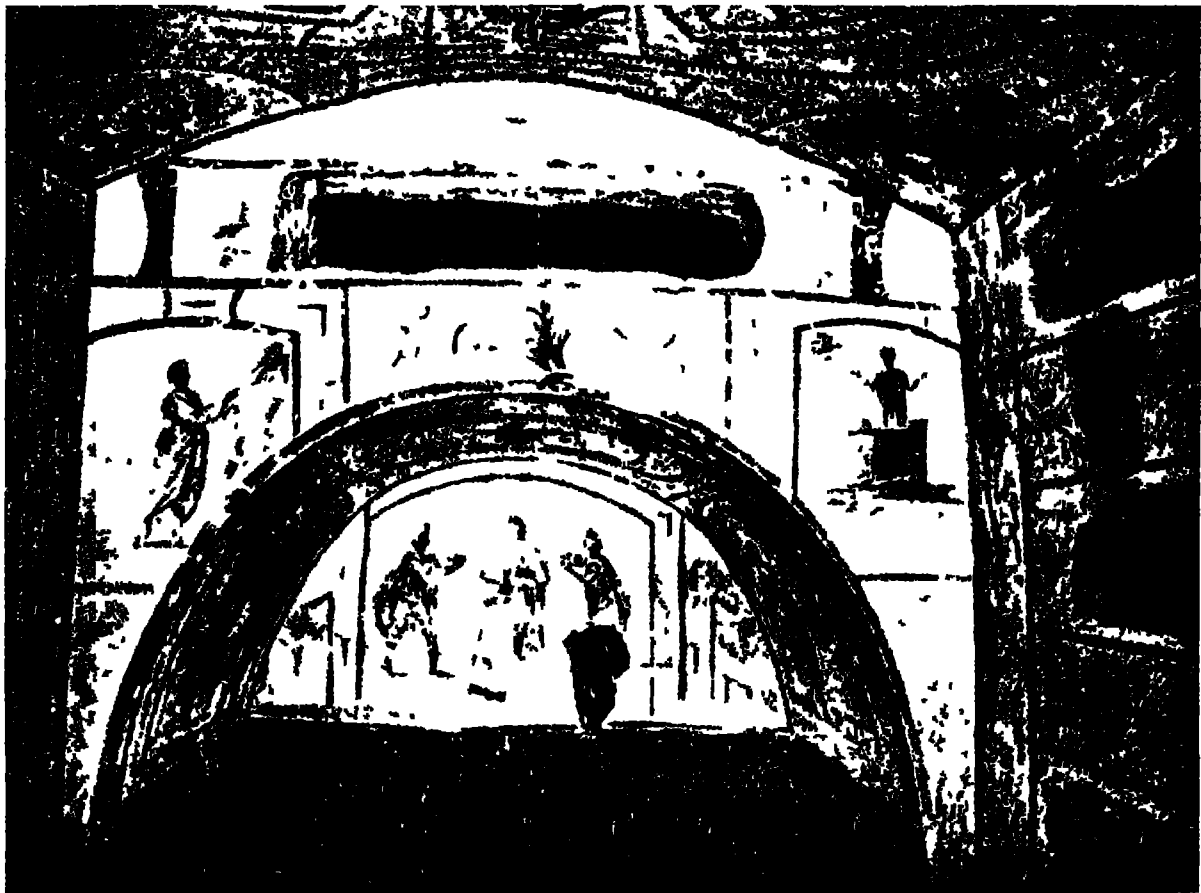
There follow as we pass again down the galleries five cubicula known as the "Cubicula of the Sacraments." They date from the end of the second century, and are ornamented with wall paintings. In the first is a wall painting of the Saviour raising Lazarus, in the second one of Moses striking the rock—that is, scenes of deliverance. As though to emphasize what was most of all in the hearts of these people, their rescue from the power of death, scenes of deliverance are very frequent in the catacombs; for instance, we have beside those above, Susannah and the Elders, Daniel in the Lions' Den, the Three Children, the Sacrifice of Isaac, the Ark of Noah, the Release of S. Peter from Prison, the Story of Jonah and many others of a like description.

The third cubiculum is particularly rich in these wall paintings. Here we see the Good Shepherd with the sheep on His shoulders, two figures in the attitude of prayer with their arms outstretched, called "oranti," and birds and angels, while the floor is an imitation of mosaic work. In the fourth cubiculum we have a picture of Moses striking the rock, as again in the fifth. Opposite the entrance is represented a tripod with a fish and bread laid upon it, beside stand a woman and a man vested with the pallium. This is a symbolic representation of the Eucharist, the woman, in the attitude of prayer, is the Church. Other pictures are also to be seen, much faded. On the flat roof is again the Good Shepherd carrying the sheep with two other sheep at His feet. Close by the Moses in the fifth chapel we see a fisherman taking a fish from the water, a reference, no doubt, to the Sacrament of Baptism and to the Apostles and their successors as "fishers of men." Everywhere the fish is significant, sometimes

symbolic of the soul regenerated by baptism, sometimes of Christ Himself. The "pisciculus," the little fish, is the Christian, the "Ichthus," the letters of which signify in Greek the initial letters of the words "Jesus Christ, Son of God, Saviour," is a symbol of Christ.

Passing on again through the galleries we come to a part of the catacomb which was actually the work, as an extension of the Cecilian, of Callixtus. Here, in a square cubiculum with little "arcosolia," Pope Eusebius is buried. The whole chamber was once lined with marble and decorated with mosaic. Farther still is another chamber with two sarcophagi containing the remains of the deceased, and farther still the Crypt of Severus, and then that of Lucina containing the tomb of Pope Cornelius.

But such an enumeration can mean little to the reader, and gives no idea at all of the catacombs, what they really were, or their meaning for those who visited them. They were far more than cemeteries; they were the cradle of Christianity,



GRAVES AND PAINTED FRESCOES IN THE CATACOMBS OF S. CALLIXTUS

On the right and in the centre of this photograph will be seen three of the loculi typical of the thousands in which the faithful bled and laid to rest the remains of their comrades. At burial the forbidden rites were performed and the grave was sealed either with a slab of marble or with baked clay, on this afterwards was inscribed the name of the dead and the walls around it were decorated with symbolic frescoes. In the central apse is the figure of Christ, attended by two of the faithful.

Courtesy of B. N. I. T.

and the refuge and the home of the Church. There the early Christian took part in his wonderful act of worship. Let us picture such an one, perhaps in the time of the Minor Peace, a little weary after a night journey along the Appian Way and at dawn still some distance from the city, arrested suddenly on his road by that singing Pliny heard. Knowing well its import he would turn out of the way through that narrow door in the vineyard wall of the old villa, follow the path, and coming to that "gap of blackness" in the grassy hill at

the back of the house, so descend by devious, narrow ways lined with the names of those already sleeping—his own friends, perhaps—till he would come at last to the "Church in Lucina's House" to remind himself once more in the early spring morning of the great deliverance.

Amid the sacred readings, in silence at certain intervals or again with bursts of chanted invocations, and from the many prayers and protests of love, little by little, and always with that sense of expectation of someone coming, the dramatic

narrative disengaged itself till it appeared with all the vividness of a picture, and he seemed to see that Figure towards Whom the whole act of worship was continually turned. Yes, in that world of the catacombs, surrounded by symbols of Hope, one was content with the new Love born into the world, which changed the whole aspect of life, of death, of conduct so marvellously, and made things hitherto difficult and mysterious just a kind of joy. It was indeed a new world that one came upon suddenly in those dark, obscure ways, out of the boisterous, cruel delight of the Colosseum or the ennui of the baths. There, as it were, after the agony of the arena, a new fraternity was born, a new brotherhood of man.

And so the first impression on entering one of these catacombs to-day is altogether of serenity and peace; even the scenes painted there are serene and glad. They do not seem to have been preoccupied by the Crucifixion, the death of Christ; they thought only of the Resurrection. Nor is there hatred or contempt at all of pagan thought or religion. It remains as it were transformed, seen with new eyes, and drawn into the service of Christ;



MEN WHO TOOK THEIR LIVES IN THEIR HANDS FOR FAITH'S SAKE
Situating beneath that triangular piece of ground which intervenes between the Via Appia and the Via Ardeatina are the catacombs of S. Callixtus. The galleries and crypts have yielded a rich harvest of information concerning the early Church, and there is an amazing amount of decoration. This fresco in one of the "Chapels of the Sacraments" represents SS. Policamus, Sebastian and Curinus, brethren of the early Church.

Courtesy of E. N. I. T.



FORERUNNER OF THE CATACOMBS COLUMBARIA IN ANCIENT ROME

Pagan tombs were of two kinds, viz. family tombs (gentilitia) and those of a society of families (columbaria). In origin the Christian catacombs which are an evolution of the pagan tombs belong to the former category, but their later development attaches them to the latter class. The pagan cemetery illustrated here is one of the largest of many on the Via Appia, and is very typical of the structures that inspired the excavations of the Christians. Notice the sepulchral monuments set in the niches.

so that Orpheus becomes but a prophecy of Him, here in S. Callixtus, and the Good Shepherd bears the lamb on His shoulders precisely as Hermes had been wont to do, but with a new tenderness. The portrait of Christ is but seldom found, but when we do find a representation of Him, as in SS. Narcissus and Achilleus, for instance, He is represented as young and bearded with a smile on His lips spread as Apollo.

Side by side in these catacombs they lay down to sleep, the rich beside the poor, the bond by the free, to wait in perfect confidence the promised resurrection. Nor have we added much to the rite itself. For the Christians even in the earliest days, observed the customs of their ancestors though with a new intention. The ancient rite of Extreme Unction was administered the dying being literally anointed with aromatic oils and balsams till in the fourth century the body was merely touched in various places with myrrh. Then, singing the while, they swathed the body in stuns, often pressing the arms close to the body till "Funeralia" beginning where death had taken place and coming to an end in the cemetery itself. The ceremony was almost exactly that of a mass for the dead; the same psalms were sung, and the sacrifice followed at the tomb itself. Sometimes, as though for comfort, the divine species would be buried with the dead, but this was forbidden in the sixth century.

There they laid them, one after another, thousand upon thousand, in these subterranean galleries closing the place carefully with cement and writing above "Dulcissima . . . in Pace"

"Vivas in Christo." Often they would return to these silent resting-places through the long galleries, always full of a far away sound of children's voices singing. And one such, heart-broken in spite of himself, without a single look



S. CECILIA AT PRAYER IN HER GARDEN

The Crypt of S. Cecilia in S. Callixtus takes its name from the fresco illustrated here which adorns its wall. Above is the saint herself praying among the roses of her garden, and below (left) in a niche once porphyry lined is a figure of Christ; the vested figure on its right is S. Urban. The figure of S. Cecilia dates to the seventh century of our era; those of Christ and S. Urban are of the eleventh century.

Courtesy of E.N.I.T.

or a kiss or even a clasping of hands these many days, has written there again and again the name he loved, "Sofronia vivas . . . in Christo"—"Sofronia in Domino"—"Sofronia . . . dulcis, semper vivas in Deo"—"Sofronia . . ."

Temples of the Gods. XXV. The Temples of Edfu and Dendera

By Margaret A. Murray

Assistant Professor of Egyptology at University College London

THIS contribution is one of several dealing with the remarkable temple remains of ancient Egypt, complementing the articles on Thebes and Philae. Edfu and Dendera (or Dendurah) are both situated on the Nile the one south and the other north of Thebes. See column map facing page 676.—L. DITON

THE great Temple of Edfu, the most perfect temple now standing in Egypt was built in honour of the falcon god, Horus the Conqueror. The site was probably sacred from the earliest dynastic times but the present Ptolemaic temple covers all traces of earlier buildings.

The huge pylon is scored with perpendicular recesses to receive the slender flagstaffs with fluttering pennons which we now call 'Venetian masts' for the Venetians borrowed from the Egyptians the custom of placing in front of their places of worship staves with small gaily coloured flags. The forecourt is surrounded on three sides with a colonnade and was probably the place where worshippers made their offerings to the falcon god at certain hours of the day.

The pillared halls which are passed on the way to the shrine were once brilliantly painted but now the colours are dim even if they have not disappeared entirely. In the outer of these two halls the worshipper was purified with water before he was permitted to advance farther into the temple. The lay pilgrim could not penetrate nearer to the shrine than the first vestibule, for into the second vestibule and the holy of holies only the chief priests might venture. In this second vestibule human fertility was worshipped under the form of the god Min of Koptos, and the goddess Hathor of Dendera.

The sanctuary contains the actual shrine in which the figure of the falcon god was placed, the pivot holes in which swung the double doors, can still be seen in the polished grey granite. As



SENTINEL FALCON OF EDFU'S ANCIENT TEMPLE

Edfu is the modern Arabic name of the ancient Ibot which the Greeks named Apollinopolis Magna after its chief deity, Horus whom they identified with Apollo. Horus was often represented as a falcon and is said to have achieved a great victory over Set the Greek Typhon at Edfu.

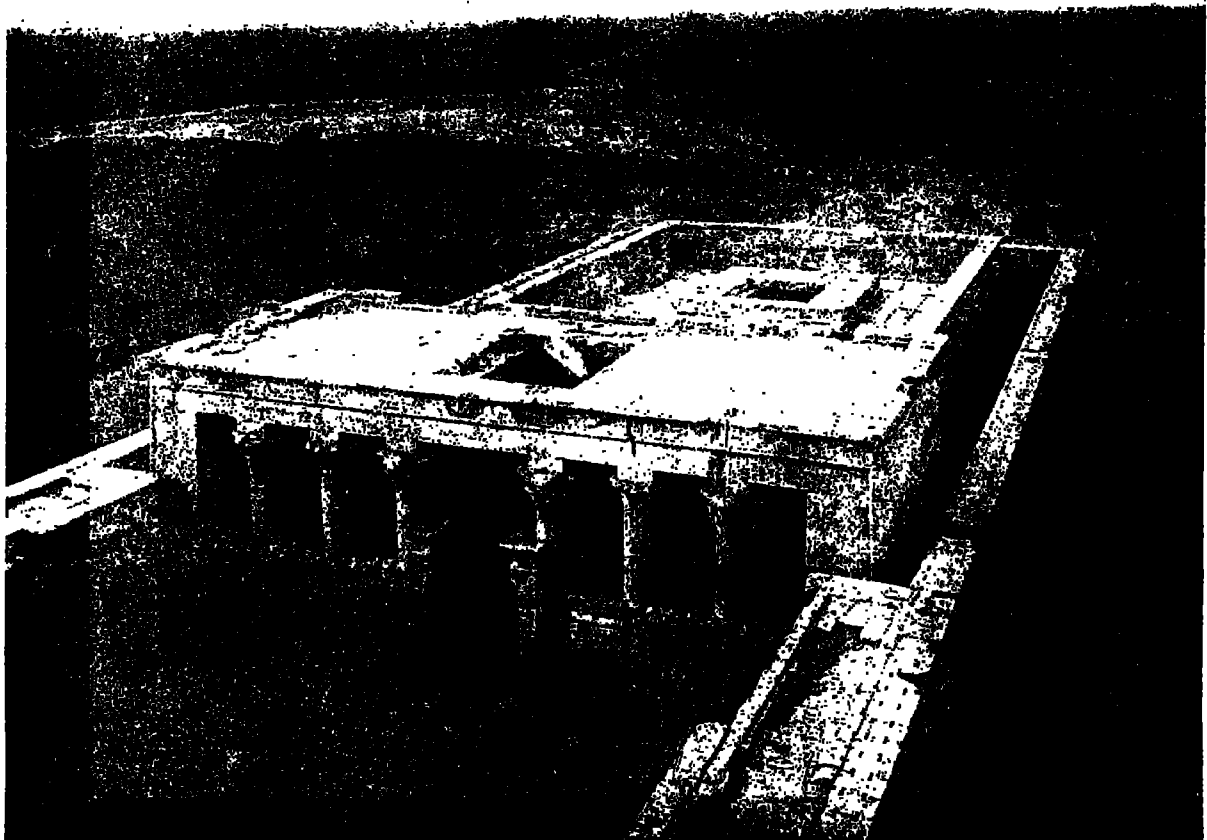
Photo by Donald McLeish



PILLARED VESTIBULE OF THE TEMPLE OF HORUS AT EDFU

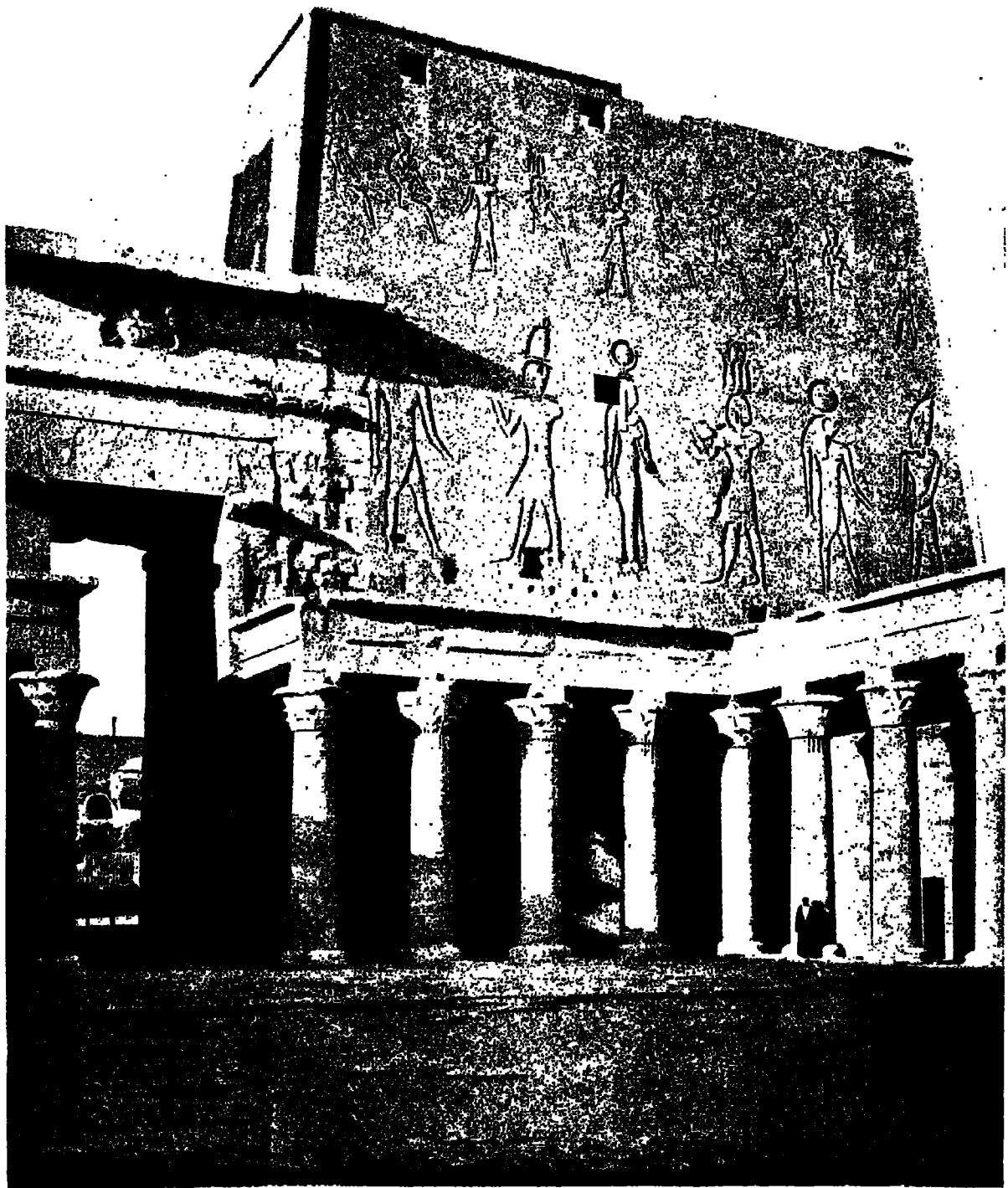
Of dark granite, the large falcon-figure by the portal of the Vestibule once lay before the temple pylon (see page 1102). Within each side of the entrance is a small chamber; between the pillars the decorated screen is surmounted by a cornice of uraei. The ceiling of the Vestibule is covered with astronomical signs, and its eighteen supporting pillars, like the twelve of the Festival Hall beyond, have richly floreated capitals. Well preserved as is the temple, the figures on the walls have been greatly mutilated.

Photo by Gaddis & Self, Luxor



TEMPLE OF HORUS AT EDFU SEEN FROM THE EASTERN TOWER OF THE PYLON

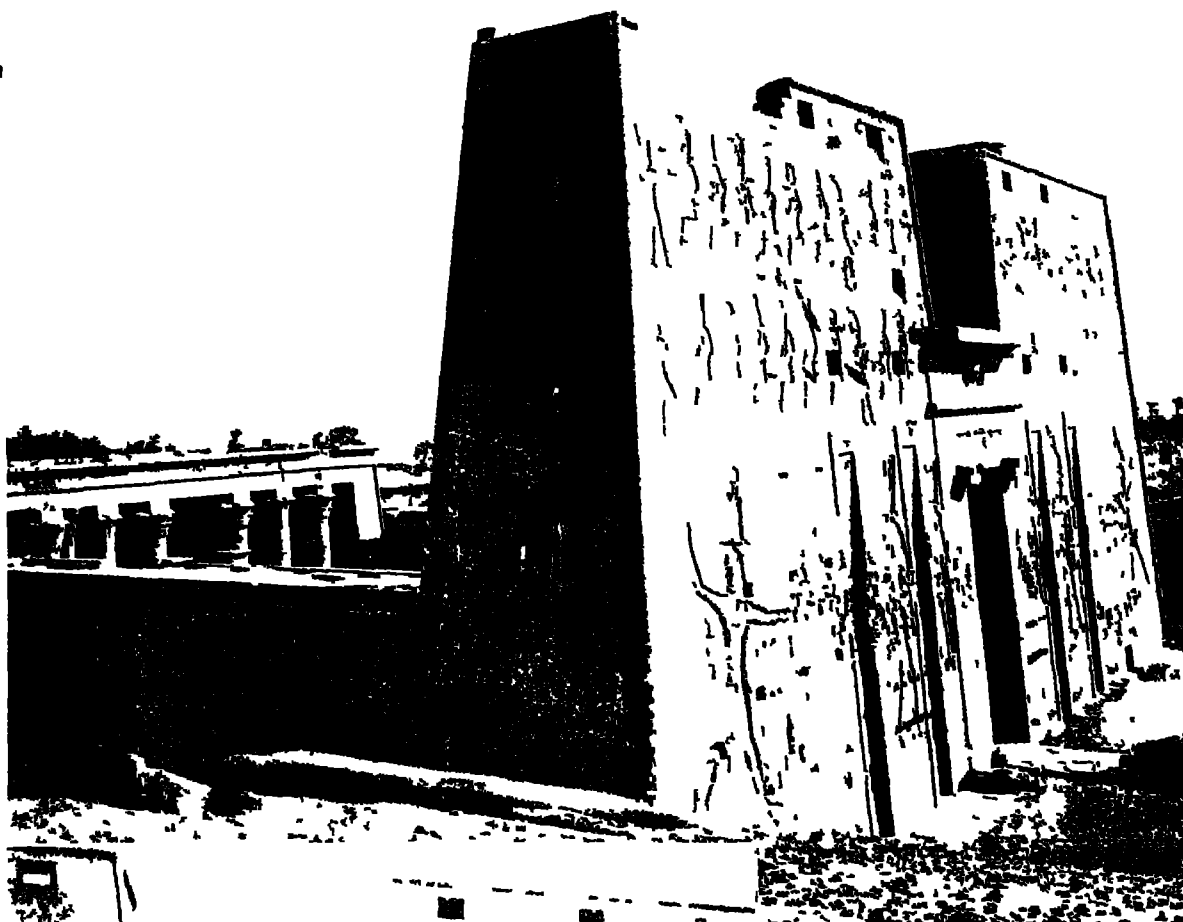
Built between 237-37 B.C., dedicated to the sun-god Horus, whom the Greeks identified with Apollo, and cleared of the mud huts which once covered its roofs and terraces, and of the rubbish with which it was once filled, this temple is one of the most perfectly preserved of the beautiful shrines of the ancient world. The pylon (115 feet high by about 250 feet wide) and the girdle wall are unique. The length is about 450 feet. Beyond the pylon are the colonnaded Court of Offerings, Vestibule, Festival Hall, and Sanctuary.



CORNER OF THE BEAUTIFUL COURT OF THE TEMPLE OF HORUS AT EDFU

On the right rises the western tower of the great pylon, the small apertures in which serve to admit light and air to the chambers and staircases within. Two staircases are connected by a passage above the central portal. The spacious Court of Offerings, in which once stood the great altar, has at the south end and on each side a covered colonnade of thirty-two columns, with symbolical designs on the shafts and finely carved floral capitals. At the north end is the Vestibule.

Photo by Donald McLeish



EDFU'S SCULPTURED PYLON

Conspicuous on both towers is the figure of Ptolemy XIII (Auletes father of Cleopatra), smiting his foes before Horus and Hathor

Photo from W & A Flinders Petrie



CENTRAL GATEWAY OF THE TEMPLE OF HORUS

Through this portal one can see across the court to the Vestibule. The long recesses in the external walls were for flagstaves. In the upper photo is seen the granite falcon, since removed to the position seen in the photos in pages 1099-1100.

at Dendera, the holy place is surrounded by an ambulatory with chambers opening off it and here the names of the rooms are poetical the Room of the Spread Wings, the Room of the Throne of the Sun, the Room of the Victor. In the last-named room there still stands an altar known as the Great Throne of the Dispenser of the Rays of the Sun.

The Temple of Edfu differs from all the other temples by having a second ambulatory which surrounds the whole of the sacred halls and chambers north of the great forecourt. The sculptures on the west wall of the ambulatory present the story of the battles between Horus and his divine enemy, Set. As the temple is dedicated to the victorious



AMBULATORY AND GIRDLE-WALL OF THE TEMPLE OF HORUS AT EDFU

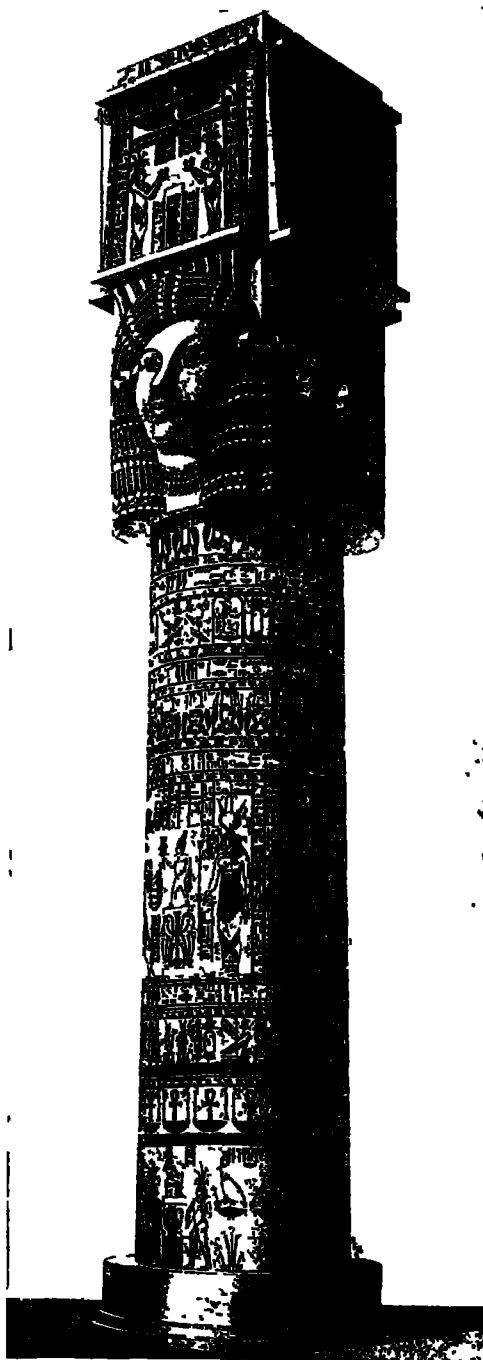
From the outer south-west corner of the Festival Hall to its outer south-east corner, encircling the temple proper, is an ambulatory (see page 1100), part of which is seen in this photograph, which also shows how the inner side of the girdle-wall and the outer walls of the temple were embellished with sculptures. The projection on the left of the photo is one of the water-spouts. A subterranean staircase leads from the eastern part of the inner passage to an ancient well outside the temple.

Horus, he is naturally represented in the most spirited manner, while the enemy appears under the form of a hippopotamus or pig. The inscriptions give the legend in great detail, and the song of the king's daughters and the women of Edfu and Pé, barbaric though it be, is unusually fine and stirring.

As in all other Egyptian temples, the roof is flat, with stairways leading up to it. The roof was the scene of the great New Year procession, which took place at the time of High Nile, in September. The king and queen were conventionally supposed to take the principal parts in the New Year procession in every temple of their kingdom, and it seems probable that they succeeded in going to each of the great temples in turn. At Edfu the king acted the part of Horus, while the queen represented Isis. There seems little doubt that, in early times, the representative of Set was actually slain during the ceremony, but in the Ptolemaic sculptures the figure of Set is apparently only an effigy.

The temple walls and pillars are covered with sculpture in which Hathor of Dendera is very conspicuous. Horus, though rightly a falcon, has a special form at Edfu, where he appears as a winged disk, a combination of the sun with a falcon's wings outspread on each side.

At Dendera the plan of an Egyptian temple can be followed very clearly. To the Egyptian, the deity was simply a superior kind of human being, with all human desires and needs. Therefore, the temple was built after the fashion of a very splendid Egyptian house. It was enclosed with a high wall to ensure privacy; the dwelling-place, or temple,



HATHOR COLUMN RESTORED
Restoration of one of the six great columns of the Hall of Processions illustrated on the opposite page. The brilliant colour that once gleamed from these pillars has been dimmed by time.

was in the centre of the enclosure, and like the dwelling-houses, coolness and airiness were the first requisites, consequently the outer walls are without windows, the rooms and halls are lofty, and the roof is flat with sometimes little kiosks. In the garden which surrounded a Pharaoh's palace or a noble's mansion was always a pond full of lotuses and fish; and here the master of the garden walked or sat in the cool of the evening. Near the dwelling-house, and sometimes actually part of it, were the store-houses and the dwelling quarters of the servants.

Keeping this idea in mind, the great Temple of Dendera is easily understood. Entering at the main gateway which pierces the enclosing wall, the temple is seen across an open space. The great columns of the entrance-hall are very imposing; those in front in brilliant light, those within fading into the darkness of the temple. The heavy capitals are in the form of heads of Hathor, the goddess to whom the temple is dedicated. She is represented as a woman with heifer's ears and with heavy locks of hair falling on each side of the face to the breast. The faces have been badly damaged by Christian and Moslem fanatics to whom the "idols of the heathen" would be anathema. The colouring of the pillars and the walls still remains, and though time has dulled its brilliance to some extent, it still recalls the ancient glory which once gleamed from the temple walls.

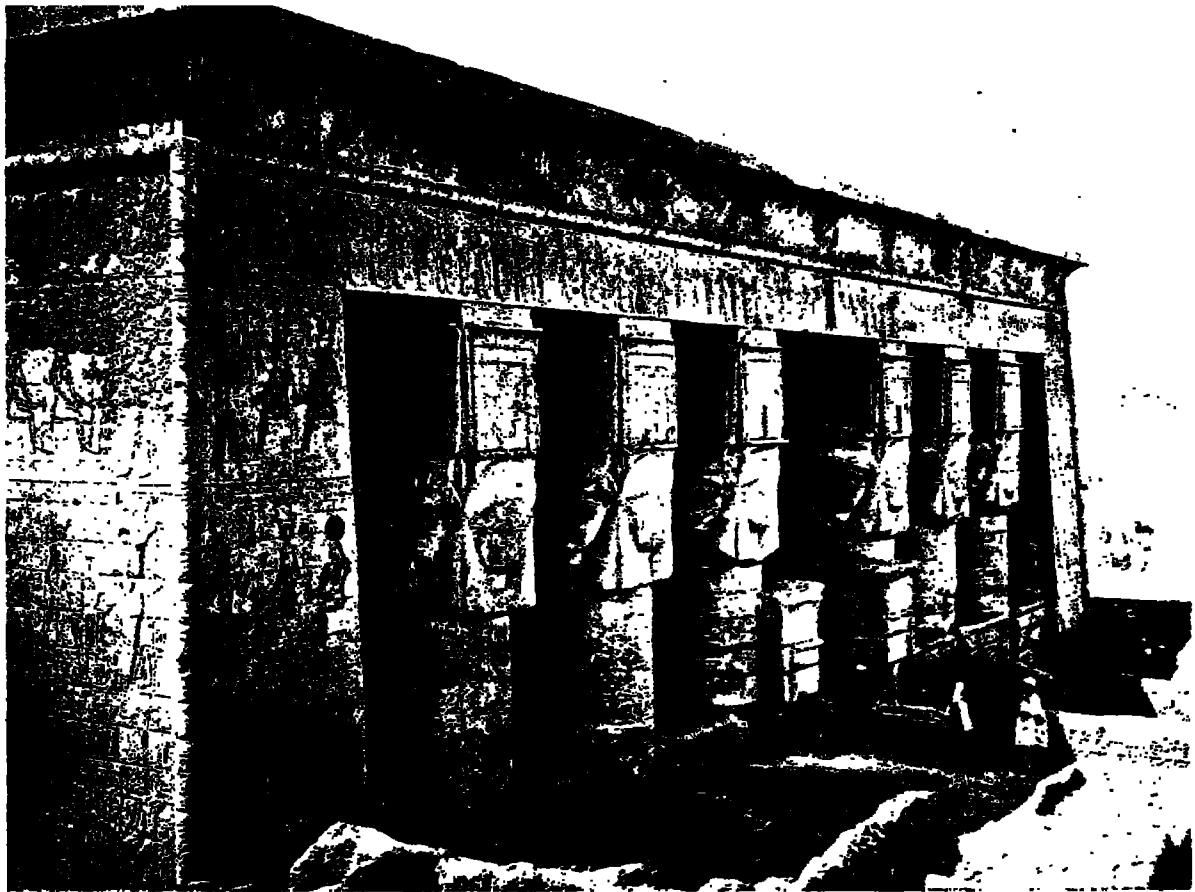
On each side of the main axis of the temple, which leads through the columnar hall and vestibules to the shrine itself, are chambers which are known by the names of the objects stored there. these



HATHOR-HEADED PILLARS IN THE HALL OF PROCESSIONS AT DENDERA

Situated between the Great Vestibule and the Sanctuary of the Temple of Hathor at Dendera, the Hall of Processions has its roof supported by six Hathor headed pillars the base and two lower drums of each being of granite and the upper parts of sandstone. Pillars and walls once glowed with colour. On the ceiling of the Great Vestibule, called also the Great Hall of Nut who symbolised the sky, was a zodiac, now in Paris and replaced by a plaster cast, in which the sign Cancer is represented by a scorpion.

Photo by Gaddis & Self Luxor



THE TEMPLE OF HATHOR AT DENDERA RISING FROM THE DUST

Just as at Edfu, where until about 1864 all but the pylon of the Temple of Horus was buried under native mud huts and rubbish of centuries, so at Dendera the spade has recovered for us a fine example of Ptolemaic architecture. In the above photograph we see the pronaos or Great Vestibule of the building as it appeared when only half liberated from the debris that time and vandalism had heaped upon it. The camera in this case affords an interesting object-lesson in the work of the modern excavator.

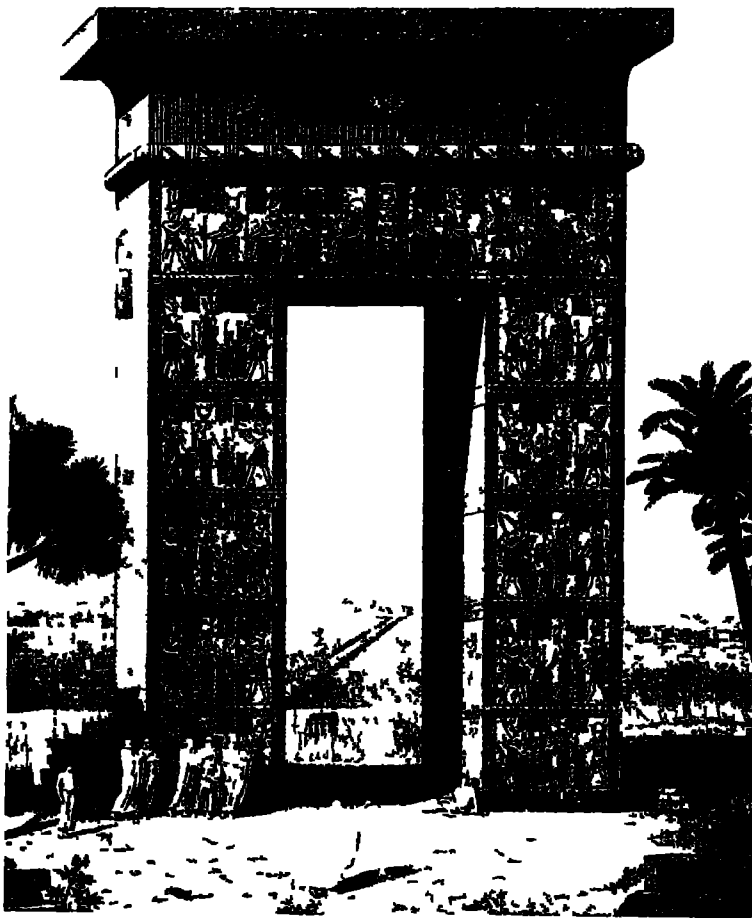
Photo by Friih

often have a poetic sound, as the Silver Room, the Incense Room, the Harvest Room. An ambulatory goes all round the shrine, and from it other rooms open; these, however, were often chapels for religious purposes, and were called the Flame Room, the Resurrection Room, the Purification Room. The laity were probably not admitted to the inner part of the temple, but remained in the outer vestibule when the doors were opened at the great festivals, and the image of the goddess was revealed to her worshippers.

In one of the side chapels, which, judging by its position, was consecrated to the celebration of the mysteries, is a representation of the sky-goddess, Nut, who at Dendera was considered as only another form of Hathor. She is in the conventional attitude of Nut, stooping down with hands touching the earth, her body thus representing the arch of heaven. She is here a typification of the life-force of the world, her robe symbolising water, and the sun upon her body sending out its rays, for life requires both heat and moisture.

On the flat roof of the temple is a shrine dedicated to Osiris. On the walls of one of the chambers is the celebrated Ritual of Dendera; this gives the details of the ceremonies which were performed in the chief centres of the Osiris-cult, and is therefore of the utmost importance for all students of the ancient Egyptian religion. In another of the chambers was the equally celebrated Zodiac of Dendera, which was removed by the French and is now in the Bibliothèque Nationale at Paris; a plaster cast replaces the original in the temple. As part of the "mysteries" of Hathor was her identification with the sky-goddess Nut, astronomical signs and symbols play a large part in the decoration of all parts of the temple.

Under the temple itself are twelve chambers, or crypts, some of which lie below the others. Underground chambers are known in other temples, and were probably for the celebration of the mysteries. The outer walls of the temple are sculptured with scenes of worship, of which the most important is the portrait of Cleopatra with

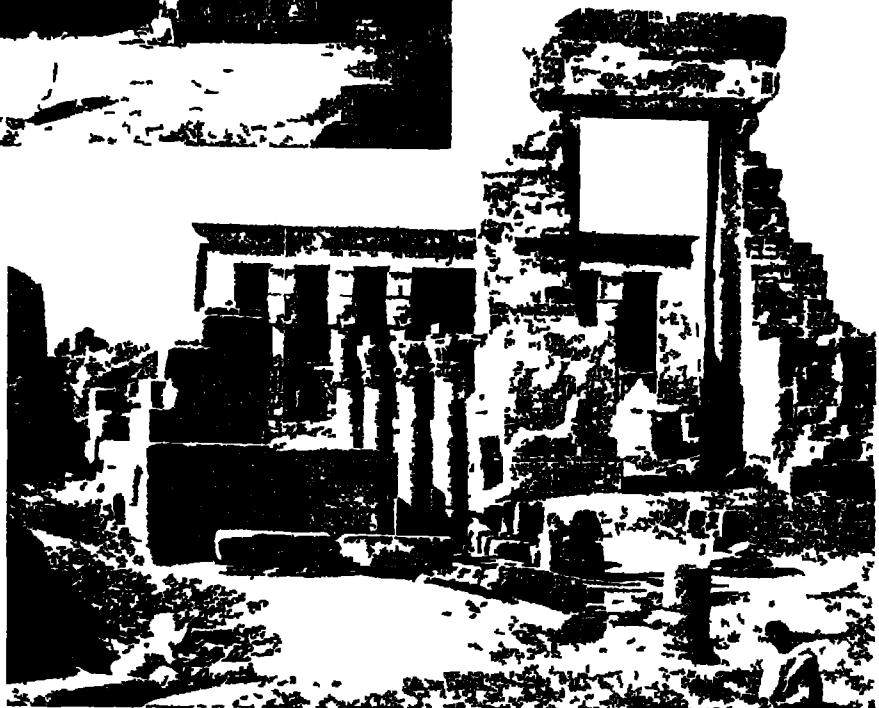


her son Cneph. At the north west of the temple is the Birth House, which has been recently cleared by the Department of Antiquities. The sculptures chronicle the divine birth of Nectanebo whose father is here the god Amon of Thebes.

The Sacred Lake belonging to the temple has also been recently excavated. It is the most perfect specimen known, it is rectangular and at each corner is a stone stairway descending to the bottom. Part of the ceremonies in the ritual of any deity consisted in carrying the image in a

boat on the water, and for this a lake within the sacred precincts was necessary, just as a Pharaoh or a nobleman also disported himself by floating among the water lilies on his private pond.

Hathor, however, once a year at the new moon of the month of Lpiph, made a longer voyage than on the Sacred Lake, her image was placed in the sacred barge and, escorted by crowds of other boats, was taken in state up the river to Edfu. Horus, the god of Edfu, in his state barge met the procession of boats and accompanied Hathor to his temple. After a visit of some days Hathor returned in equal pomp to the seclusion of her own temple, where she remained till the time of her annual visit and gala festival recurred again the next year.



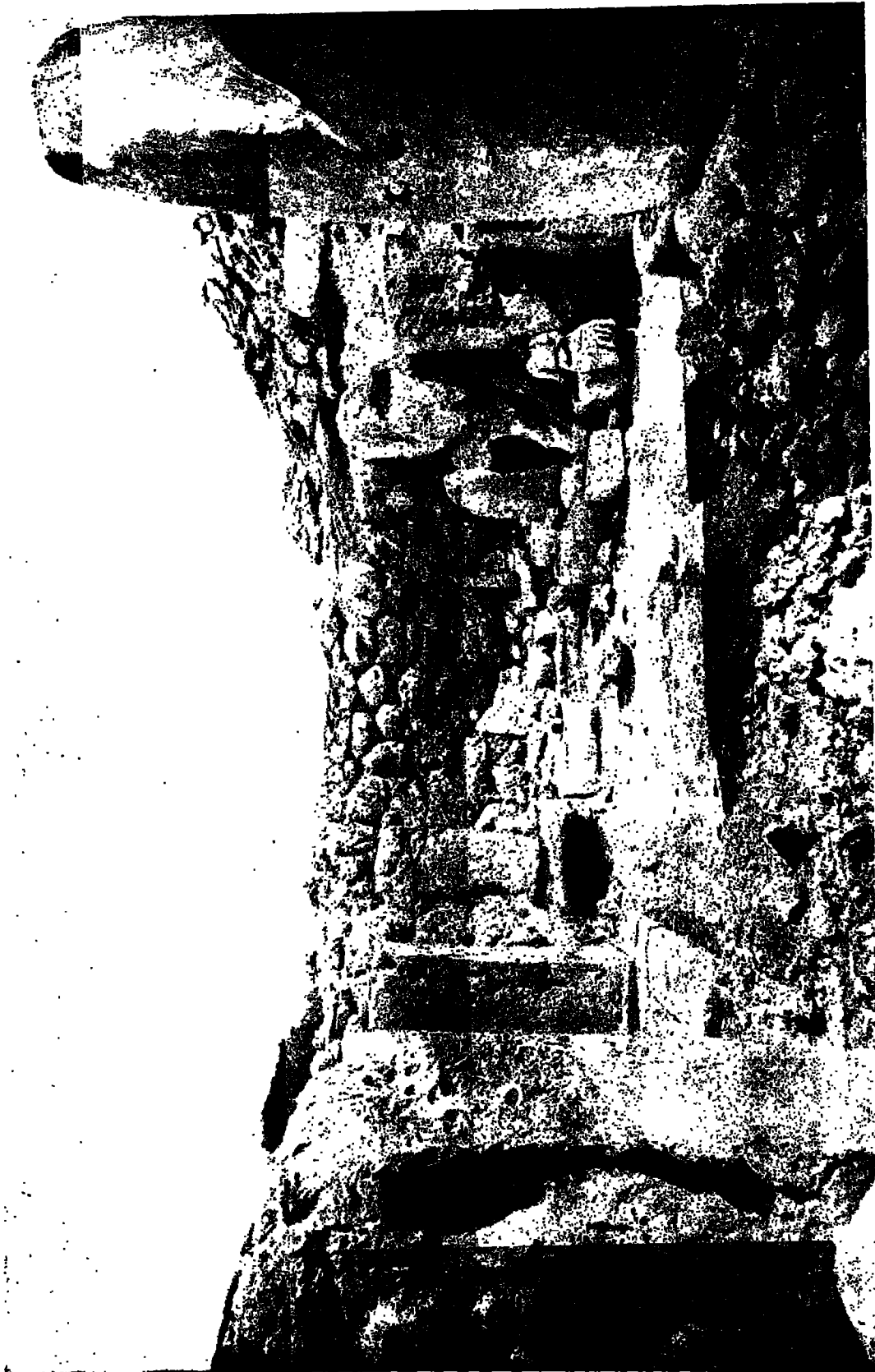
PYLON OF THE TEMPLE OF HATHOR AT DENDERA—THEN AND NOW
Above is a photograph of the isolated stone pylon of the Temple of Hathor at Dendera as it is to day. It bears the names of Domitian and Trajan. Top (left) from "La Description de l'Egypte" a work issued under the patronage of Napoleon, is a reconstruction of the great gateway as it was conceived to have appeared on the occasion of the annual Hathor festival.

Photo by Donald McLeish



CLEOPATRA REPRESENTED SACRIFICING TO THE GODS AT DENDERA

Among the many reliefs on the outer walls of the Temple of Hathor at Dendera, examples of ancient Egyptian art are these figures on the south wall showing Cleopatra and Julius Caesar sacrificing to the gods. The small figures represent their son Caesarion. The general plan of the temple, which dates from between the first century B.C. and A.D. 1, is similar to that of the temple of Horus at Edfu, but the relief is given by the artist.



DEDICATED TO THE WORSHIP OF A LONG FORGOTTEN DEITY OF THE NEOLITHIC AGE: THE TEMPLE OF GIGANTEA, AT GOZO
Four miles north-west of Malta, on the little island of Gozo, are the remains of the temple of Gigantea, very similar in construction to that of Hagiar Kim (see page 1113); we notice the same use of gigantic boulders in both temples, and again we wonder how without the assistance of modern mechanical devices these mighty pillars were hewn, and carried, and set up. The picture shows the principal court and front apse, and the figure of the woman seated on the right will help the reader to judge, by comparison, the enormous bulk of the monoliths.

The Great Monuments. IX.

The Stone Age Marvels of Malta

By T. Eric Peet

Late Professor of Egyptology, Liverpool; author of "Rough Stone Monuments and their Builders"

WE are indebted to the courtesy of Dr. Zammitt curator of the museum at Valletta for the very fine series of illustrative photographs that accompany this important contribution on one of the most fascinating of the many archaeological problems of the remote past.—EDITOR

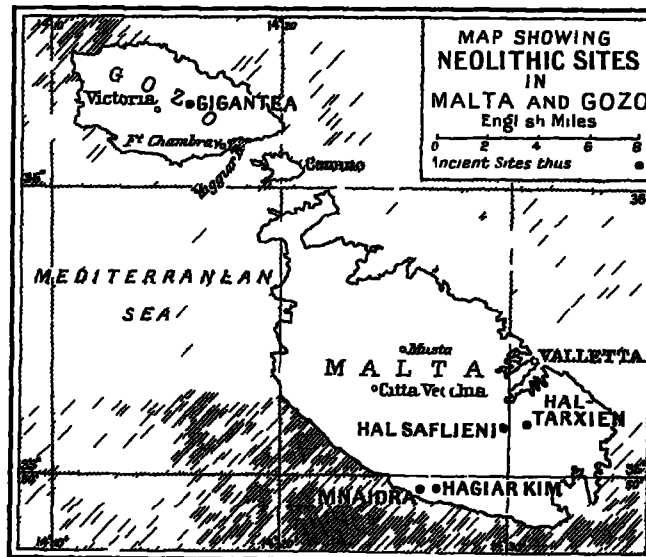
THE casual visitor to Malta brings away with him the impression of a barren island whose landscape is carried out entirely in the grey and browns of limestone without the aid of green except from the occasional carob trees. The archaeologist comes and comes again, for in the very stony nature of the country lies the reason why the monuments of prehistoric times still stand almost in their original freshness. Malta, in fact, is one of the most perfect spots in the Mediterranean for the study of what are known as megalithic monuments.

A megalithic building is of course, one built of large stones. Yet if we accept this definition without qualification, we shall have to class the pyramids of Egypt, and perhaps also St Paul's Cathedral as megalithic monuments. To the archaeologist the term has a more special and narrower meaning. It is used of monuments not only built of very large stones, but conforming in plan and design to certain general types falling, to some extent into the same period of prehistory, and apparently with exceptions, belonging to one and the same general culture circle. The best known types of megalithic monument are (1) The menhir, a tall pillar of stone set upright in the ground (2) the dolmen a tomb made by setting an enormous flat block of stone over a number of upright blocks placed so as to enclose a small chamber, circular, elliptical, square, or rectangular (3) the corridor tomb (French "allée couverte"), consisting

of a dolmen with a long covered entrance-passage also in stone (4) the alignment a series of menhirs set in straight lines as in the famous examples of Carnac in Brittany and (5) the cromlech a circle of upright stones, the most famous example of which is Stonehenge in England. In some of these cases the stones are entirely unworked but in others they have been trimmed by the hand of man. In the case of the dolmen it would appear that they were often if not invariably covered by a mound of earth or small stones. In addition to these common types there are others less frequent, which for archaeological reasons appear to belong to the same milieu such as the "navetas" or "naus" of the Balearic Islands, the "sesi" of Pantellaria (tombs), the "nuraghi" (dwellings) and the Giants' Graves (tombs) of Sardinia, and last but not least the so-called temples of Malta and Gozo.

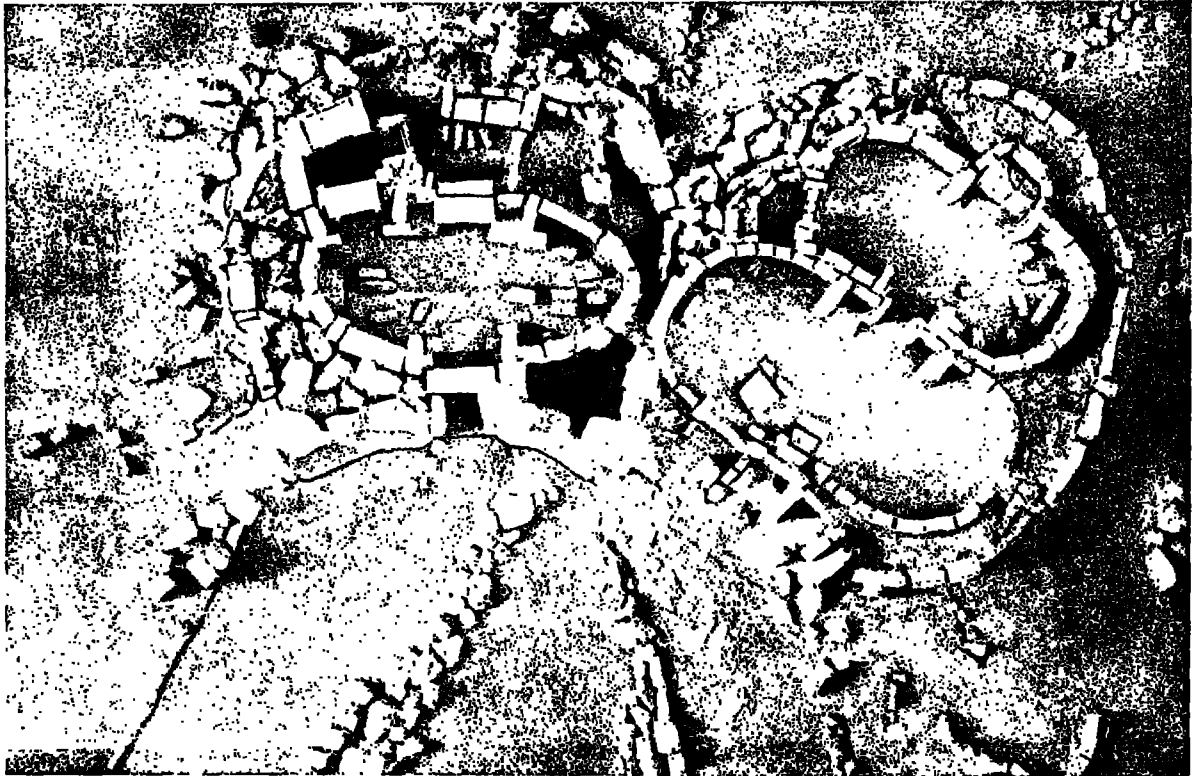
For many years it was taken for granted that the only megalithic monuments of Malta and Gozo were the famous temples, but recent research has revealed the existence of a few dolmen tombs of

the ordinary type, and it is beyond doubt that more are still to be found and that many have been destroyed. The temples themselves—we give them this name for the moment without discussing whether it is justified—must have been fairly numerous on the islands. Remains of about a dozen are known, of which the most important are those of Hagiar Kim and Mnajdra on the south coast, the three buildings at Cordin



above the Grand Harbour at Valletta, Hal Tarxien, not far from these last, and Gigantea on the island of Gozo. The temple in its simplest form appears to have consisted of a concave façade with an entrance leading to two elliptical rooms one behind the other (see photograph in this page). In the back wall of the inner room is a recess to which the very misleading name of a "dolmenic

northerly is probably a later addition. Each half comprises a complete temple as already described, namely, two elliptical chambers one behind the other, with a niche in the back wall of the inner. The walls consist of large, roughly squared blocks of stone set on edge. These average 6 feet in height, and are surmounted by several courses of horizontal blocks rising another 8 feet. In



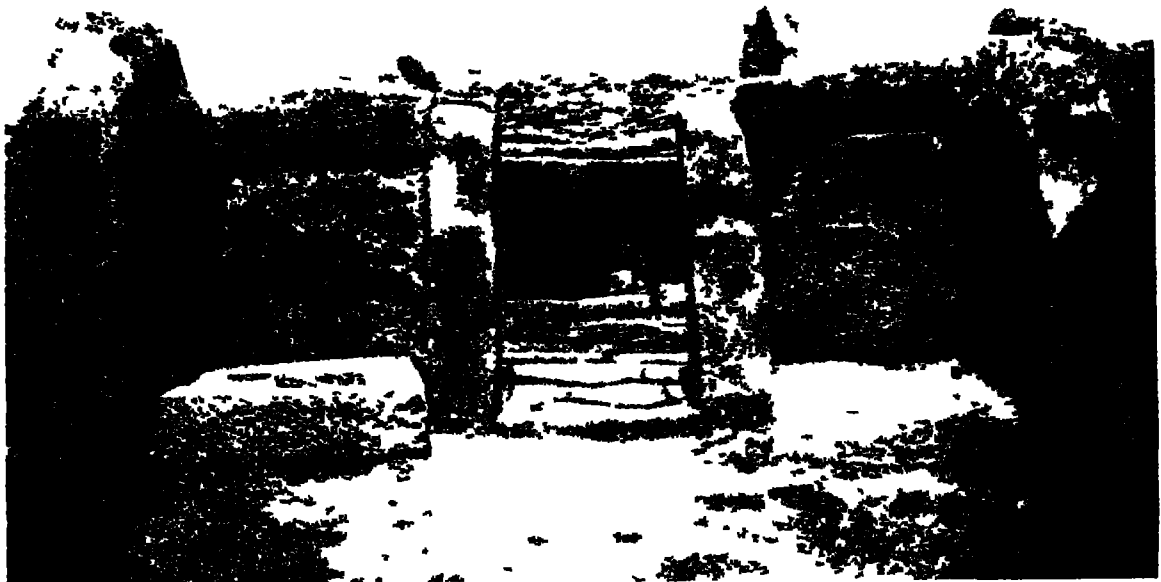
VIEW OF MNAIDRA SHOWING HOW THE MALTESE PLANNED THEIR WONDER TEMPLES

The temple of Mnaidra is built on a height looking across the sea to the desert island of Filfla; the building consists of two halves, each in itself a separate temple, and an idea of the conventional shape of all such megalithic shrines may be gathered from these remains, which are typical in that they both consist of two elliptical chambers built one behind the other of rough-hewn square slabs. The southern temple (on the right) is, as may be seen, of less complicated design than the northern, which has in its inner chamber a trilithon of immense proportions. The photograph is of a cork model in the museum at Valletta.

niche" has been given; in this is a large flat slab of stone of very variable height supported either by two uprights at its extremities (a trilithon) or by a rounded column under its middle. Such are the essential elements of the temple. Its size and detail may be best illustrated by fully describing the temple of Mnaidra, which may well serve as a type.

The temple of Mnaidra lies on a ridge overlooking the almost inaccessible south coast of the island. Seaward there is a magnificent view out to the little desert island of Filfla, while on the land side the temple of Hagiar Kim is visible only half a mile away across a shallow valley. The building itself consists of two halves, of which the more

the apses of the rooms these upper blocks are corbelled, that is to say, each course projects inwards over the course below it in such a manner as to form eventually a complete roof. When the buildings were intact the two apses of each room were roofed in this way, but it is not unlikely that the central portion of each room stood open to the sky. This method of building, namely, the use of upright slabs surmounted by coursed and corbelled masonry, is characteristic of many types of megalithic structure, and is one of the reasons which incline archæologists to assign these to a single culture-group. In the entrance of Mnaidra and in the passages leading from one room into another the uprights are even more enormous



ENTRANCES TO THE TWO INNERMOST SANCTUARIES AT MNAIDPA

Top picture— This photograph was taken in the outer chamber of the southern temple. The entrance to the inner chamber may be seen and the immense horizontal slab of the entrance to the innermost sanctuary is visible. The bottom picture shows a corresponding passage in the northern temple and the entrance to the innermost sanctuary with its tablet in its niche. The punctured ornamentation is noteworthy—it formed a common decoration in neotonic architecture.



APSE OF AN INNER CHAMBER IN THE MNAIDRA TEMPLE

A column and a triliton, the latter combined in the temple at Mnaidra. On the right, the triliton in its niche, the central pillar built in the middle of the triliton, the support of the impost which is cracked. In the left, the triliton in which are found among the ruins.

that in the rooms and there is one which is no less than 15 feet in height. In the case of the southern half the main niche in the back wall of the inner chamber is itself elliptical in form and contains a massive triliton visible in the upper portion in page III through the equally massive doorway.

The northern half of the temple at Mnaidra is of more complicated design than the southern. It contains a triliton with the finest triliton in the whole building, the central being 10 feet high and the supports 5 feet high. One of its smaller chambers is well shown in page III3. Its entrance consists of an upright slab of stone in which is cut a large rectangular hole through which one may pass with no great difficulty. This is finely framed by two upright side-posts and a lintel, the whole doorway being ornamented with the punctured decoration

typical of the finer work in these Maltese temples. Through the aperture can be seen in the photograph the stone table resting in its niche on a column of stone of which half is visible on the left. This table is only 32 inches high. In addition to this central niche the chamber contains two more one to the right of the doorway and one to the left as one enters it.

The temple of Hagiar Kim is more complicated in plan than that of Mnaidra, though the essential elements remain the same. It appears to have been considerably modified and added to from time to time, and contains a few elementary examples of the carving so finely

represented at Hal Tarxien. Gigantea, on the island of Gozo is in some respects the greatest of all the temples for its walls are still in part preserved up to a height of 20 feet.



COMMUNAL TROUGH FOR GRINDING CORN AT CORDIN

In a group of ruins at Cordin, overlooking the Grand Harbour of Valletta, lies a long stone grinding trough with several compartments, before which one can imagine the women of the community grinding in a row and making corn for the community. Of the people who raised the intricate Maltese temples, at least we can say that they were on the way to becoming agricultural, although from other indications it would appear that their domestic life along the time was somewhat rudimentary.



GREAT MONOLITHS FORMING THE WALLS OF THE STONE AGE SHRINE AT HAGIAR KIM

The stout building and the virtual indestructibility of such ancient temples as these can be well judged from the photographs above. They are both of the Hagiar Kim remains. The top picture shows a portion of the eastern wall with a niche containing a stone pillar which had probably some votive significance. A good example of the crude outer masonry is given below. There are five separate walls inside this outer one, and the intermediate space between these walls is filled with a strengthening accumulation of earth and stones. Impregnable as a fortress must have been this ancient shrine.



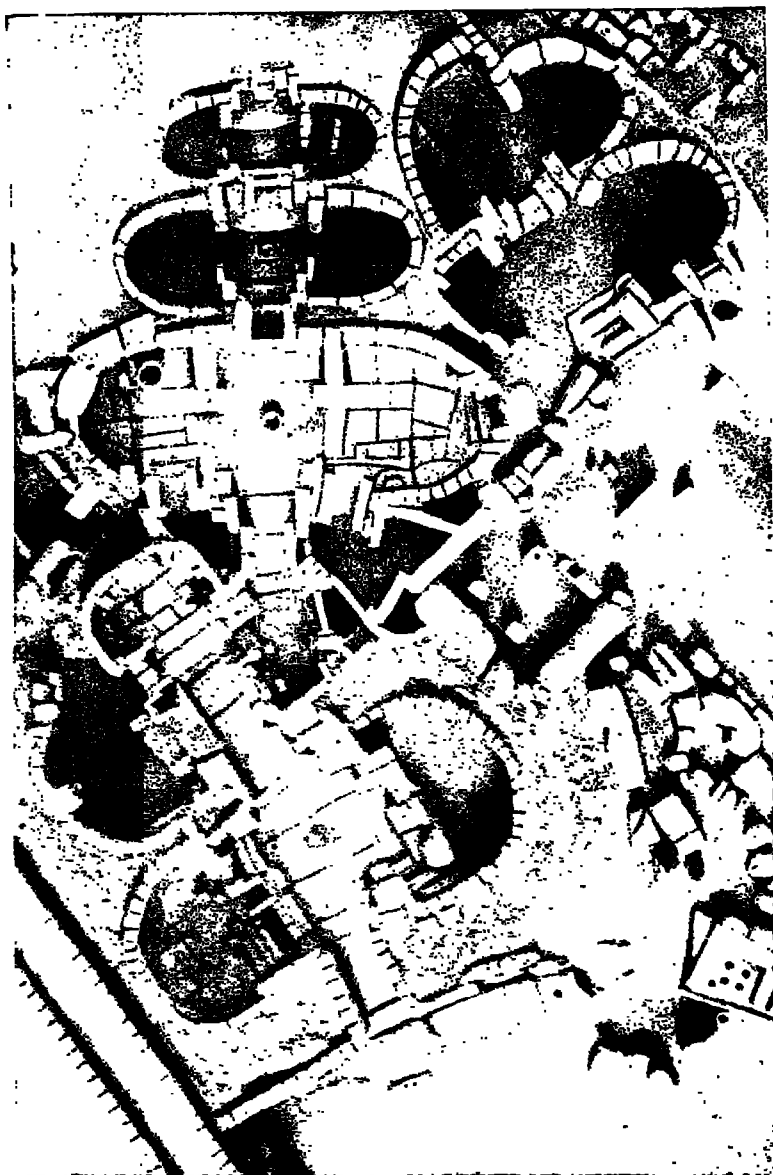
MASSIVE PILLARS IN THE HAGIAR KIM TEMPLE WITH PRIMITIVE ORNAMENTATION SIMILAR TO THAT AT MNAIDRA

The temple at Hagiar Kim, part of which is shown above, is of more complicated design than the Mnaidra temples, and is built on a grander scale, only the largest stones being used. There is one mighty slab 23 feet long by 12 broad, and a great pair standing 20 feet high. How these vast monuments were set up is still a mystery, though some suggest that spherical stones found near the ruins may have been used as rollers for the monoliths, for trees, whose trunks might have served this purpose, were probably as scarce on the island then as now. The monolithic tables on either side of the passage were probably used as altars for sacrifices to the deity of the shrine.



VAST OUTER WALLS AND FINE CARVED WORK IN THE INTERIOR AT HAGIAR KIM

The top picture shows one of the outer rooms at Hagiar Kim, situated on higher ground than the main temple buildings. The masonry is here the roughest in the building and is composed of the largest blocks, in marked contrast to the finer interior work, a good example of which may be seen in the lower picture. The large stone with carved ornamentation forms the entrance to the passage leading to the innermost shrine. Examples of this finer stonework are given in our illustrations of Hal Tarzien.



VIEW LOOKING DOWN ON THE HAL TARXIEN COMPLEX

Below the cork model is a photograph of a cork model in the Valletta Museum; it shows the not long discovered temples at Hal Tarxien, most involved of all the sites. The outlines of three successive temples may be traced, two of them comparatively late, as may be judged from the advanced ornamentation and examples of rude stonework found in them. All, however, preserve the tradition of oval chambers and altar-like niches that prevails throughout the Maltese remains.

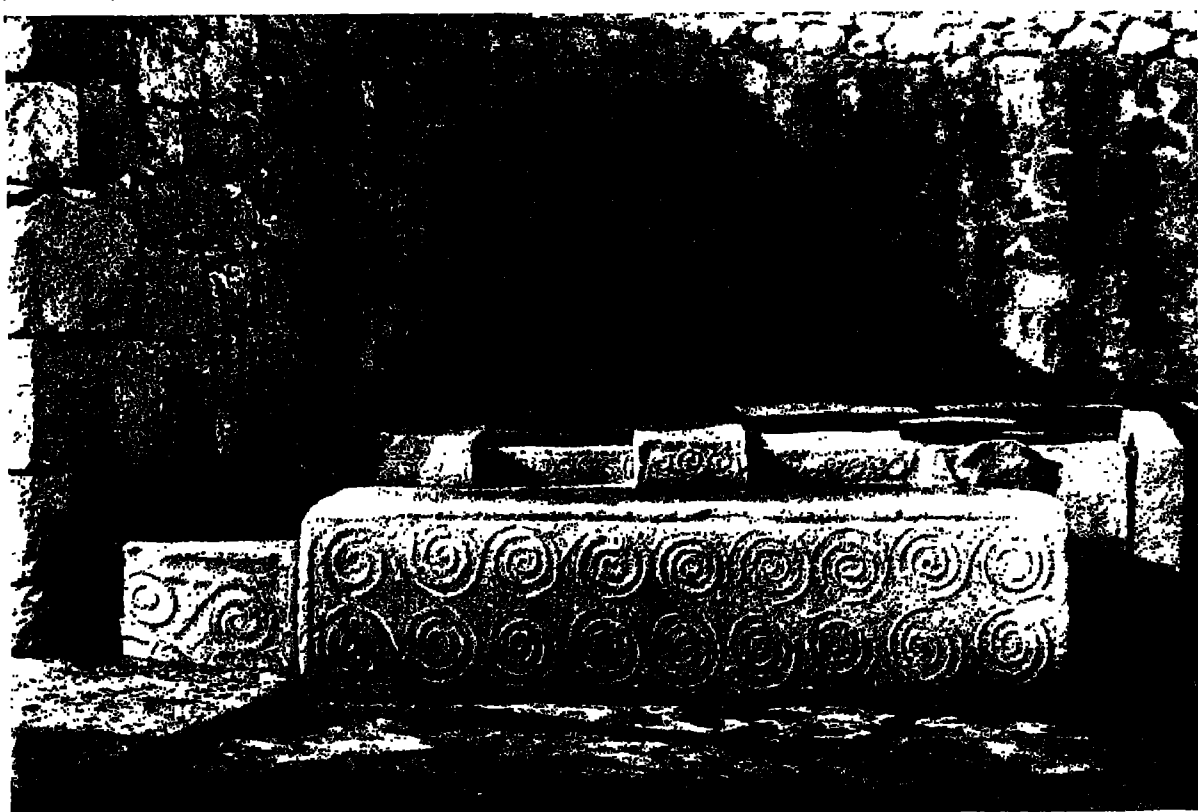
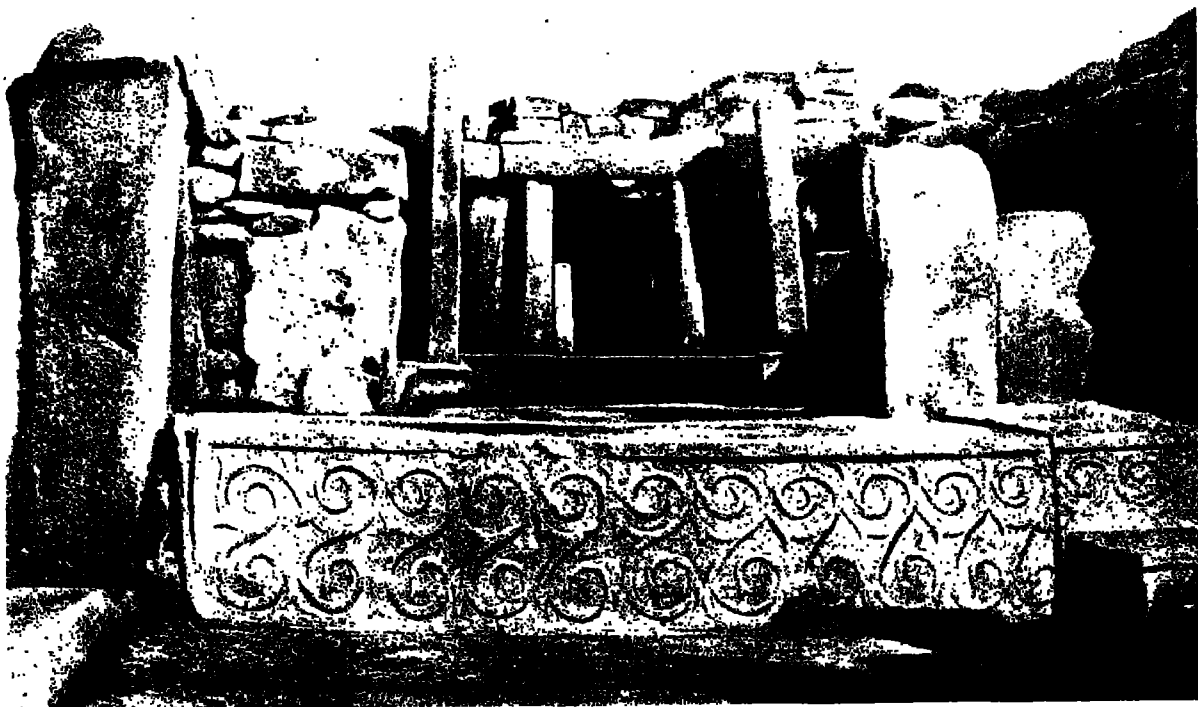
The temple site at Hal Tarxien was only discovered in 1925, and its excavation is even now only just complete. Here the remains of three successive temples were found, and in the two later were numerous examples of carving in relief on the stonework, which show that the masons of this period had attained to very considerable skill in the carving of conventionalized naturalistic designs. On the other hand, the attempts to

portray animals, of which there are two examples (bulls, a sow, etc.), are extremely crude. Sculpture in the round had not advanced very far, as is clear from a stone statue of a steatopygous female.

Besides erecting huge structures above ground the builders of Malta also worked beneath the earth. In the village of Casal Paula, a short tram ride from Valletta, is the hypogeum of Hal Safiieni. At its entrance there once stood a small megalithic building above the ground. This led down into a series of subterranean chambers cut by stone chisels in the soft limestone rock. These chambers, which are irregular in plan, are arranged in two storeys connected by a staircase. No one who has seen them can fail to observe that they are the reproduction in solid rock of the ordinary above-ground megalithic building. The doorposts, the lintels, even the corbelled roofs, all are there, though they have no structural significance. Two of the simpler chambers call for special notice since their roofs are adorned with a design in red paint precisely similar to those shown in relief at Hal Tarxien. It can hardly be doubted that this place was originally, like the temples, a sanctuary of some kind. It was, however, used later as a burial place, and many of its rooms were found filled almost to the roof with remains of human bodies, accompanied with a liberal funerary equipment consisting of implements, ornaments, vases, and so on.

The description of remains is, however, merely the dry bones of history. What of the men who built these sanctuaries? When and how did they live, what civilization did they enjoy, and how and with what purpose did they manage to erect these huge and unwieldy blocks?

The temples, to which the epithet Phoenician has so often been attached, have nothing to do with the Phoenicians, but were erected by men who inhabited Malta in the Neolithic or Later Stone Age. No object of metal has as yet been



CARVED WITH CHISELS OF POLISHED STONE : ORNAMENTAL WORK AT HAL TARXIEN

These photographs present two more examples of the very fine scroll work that is the commonest decoration of the neolithic temples. The carved block in the top picture lies at the entrance to the third temple. The source of the motive of these decorations is a debatable point, but the beautifully executed branched spirals which adorn the monoliths in both photographs are thought by Sir Arthur Evans to reflect a Cretan influence.



ROCK-CUT DOORWAYS IN THE LOWER STOREY OF THE HAL SAFLIENI HYPOGEUM

The standing stones in Malta have evoked speculation enough, but their appeal to the imagination, ever quickened by things subterranean, is nothing to that of the hypogeum at Hal Saflieni, near Valletta. It consists of underground chambers cut in two levels out of the limestone rock, probably for a religious purpose; though at a later, if still early, date they were used as a place of refuge. The illusion of having doorposts and lintels, but they are all cut from the rock.



PAINTED CEILING OF A HYPOGEUM CHAMBER

Two chambers in the Hal Saflieni hypogeum, of which this is one, are notable for having scroll-designs painted in red on the ceilings. It cannot be doubted that as the features of above-ground temples are repeated in doorways and corbelled roofs, though of no real architectural meaning underground, so these scrolls are reproductions of the reliefs at Hal Tarxien.

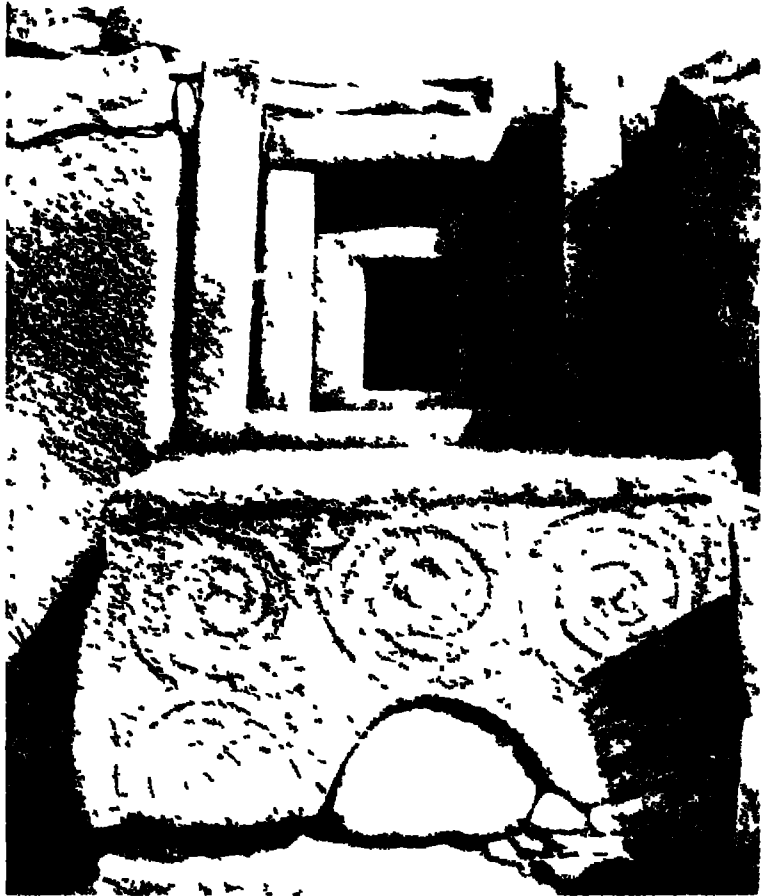
found in any of the temples, and although this is but negative evidence, it is cumulative. What is more, in excavating a part of Hal Tarxien, a stratum of dark earth was found containing burial urns of the metal age accompanied by daggers and axes of copper or bronze. This stratum was separated by no less than 3 feet of gradually accumulated earth from the floor of the temple, making it quite clear that the temple had already long been abandoned when these metal-age burials were deposited. The builders of the temples worked with tools of flint and polished stone. Their life was simple, they had domesticated the ox and the pig, but we

cannot as yet say definitely that they were completely agricultural.

With regard to the purpose of the buildings there is hardly room for doubt. They have none of the features of dwellings, but many of those which are generally associated with primitive sanctuaries or temples. This would seem, for instance, to be the simplest explanation of the curious niches with their trilithons or tables, and of the large stone water basins occasionally found on the floors. It has even been surmised that one small chamber in Hal Tarxien was used to conceal a priest who gave oracular responses, for the wall slab which separates it from the main apse is pierced by a winding hole in which the ready imagination may well see a speaking tube, though the cautious will of course demand further evidence before accepting such a far-fetched belief.

A sanctuary presupposes a deity. Who was the deity worshipped in Malta? Here we can but guess. It may be that she was a goddess, who is represented by the numerous large and small statuettes in stone and terra cotta found in these temples. All these show us a female figure of steatopygous type, that is, with an abnormal fatty development of the thighs and hips. On the other hand, Sir Arthur Evans and others have pointed out the significance of the stone pillars still found standing in one, possibly two, of the trilithon recesses, and perhaps originally existing in many more. Here we may have a parallel to a form of baetylic religion prevalent in the Mycenaean world, and among certain Semitic peoples, in which the deity was not represented by a graven image but by a tree or pillar standing in a simple shrine. When the evidence is as slight as it is here then fancy is free to roam.

The question which first rises to the lips of the visitor to Mnajdra and Hagiar Kim is, how were these huge stones moved and set up? Surely



CARVED OFFERING-TABLE IN THE TEMPLE AT HAL TARXIEN

Hewn from a mighty rock and finely carved with spiral volutes is the block that lies before a trilithon of finely-polished rectangular slabs in its inner recess. It was probably used as a table for votary sacrifices and is placed in the innermost triangle of the Hal Tarxien buildings. The triangular spiral decoration is similar to that of the slabs shown in page 1119, and seems to have the same significance as the 'condensed scroll' on the walls of the hypogeum chamber in the same page.

there is no serious difficulty. The stone was not far to seek, for the surface of the island consists of little else, and given ropes, rollers, levers, numbers, time and patience, the result follows simply enough without having recourse to the supernatural. It has even been suggested that, since trees suitable for making rollers may have been as rare in Malta then as now, their place was taken by the large spherical balls of limestone found in the ruins.



CITY BUILT BY THE HERETIC KING AND ITS BOUNDARY

Upper illustration : The largest of the fifteen boundary marks with which Akhaton surrounded Tell-el-Amarna. Cut in the cliff at the north-east corner of the plain and 26 feet high, it consists of an inscription surmounted by figures of the Pharaoh and his daughters beneath the rays of the sun's disk. Lower illustration : Central hall of the house of Rames, the King's Vizier, looking south. The door on the left leads to the harem, that on the right to the Vizier's bed-chamber, the ledge between them being the base of a divan. The limestone trough on the right is a washing-basin ; on the wall behind are the titles of Rames in yellow on red

Photo by A. O. K. Hayter

The Wonder Cities. XXX.

Tell-el-Amarna: City of Akhnaton and Tutankhamen

By A. G. K. Hayter, M.A., F.S.A.

Cambridge University Extension Lecturer in Egyptology

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THE ruins of Tell-el-Amarna, that link with one of the most enthralling periods of ancient history, are still sufficiently well preserved to disclose a wealth of information to the science of the excavator; but of the art that enriched the city the completest example is furnished by the tomb of Tutankhamen at Thebes. No excuse, therefore, is necessary for illustrating this chapter on Tell-el-Amarna with photographs, supplementary to those given in pages 41 to 47, of the funerary treasures of the Pharaoh who spent his early years there. The writer of the chapter, Mr. A. G. K. Hayter, desires me to record his special indebtedness to "The City of Akhenaten," Part I., by Prof. T. Eric Peet and Mr. C. Leonard Woolley (both contributors to WONDERS OF THE PAST), describing the two expeditions of the Egypt Exploration Society, in the first of which he himself took part.—EDITOR.

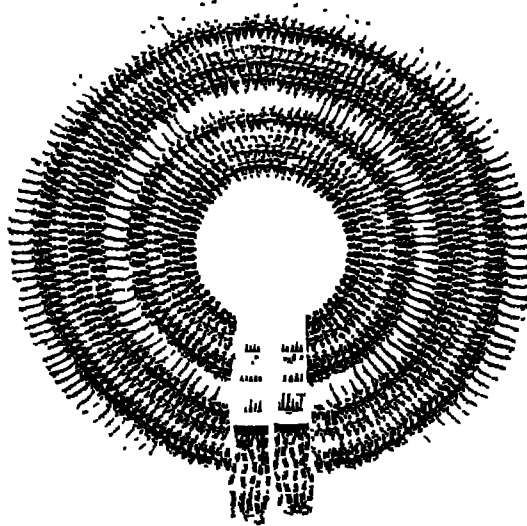
ABOUT 190 miles south of Cairo the sheer limestone cliffs which for many miles have been overhanging the Nile on its east bank suddenly break away and describe a semicircle, returning after six miles to their original distance from the river. The theatre-like area thus enclosed, three miles wide at the centre, is a level sandy plain only some 25 feet above high Nile. The visitor on landing sees at first nothing but a dense fringe of palm trees lining the bank; on his piercing this there opens out before him a glaring expanse bounded by the inevitable horizon of flat-topped hills. A closer examination of the immediate foreground detects a series of long, low mounds, many of which have been, so to speak, disembowelled and disclose ruins of mud brick walls. To the right there rise two sickly palm trees and a solitary, flat-roofed house—the home of the excavators. A modern village or two, with their domed tombs, lie half concealed in the palm plantations.

This site, somewhat unpromising at first glance, has proved one of the most thrilling in the Near East; it is the

only city of ancient Egypt yet uncovered. Its life was short, barely a score of years, yet from its remains has been obtained a vivid picture of the life of the Pharaoh's court, of his nobles and of the poorer classes. So far it is comparable with Pompeii; but the Roman seaside resort adds little to history, whereas the government archives of Tell-el-Amarna throw a flood of light on international relations at one of the most momentous periods in ancient times. But even greater interest attaches to the place from the

cause of its foundation. Its existence is due to a great religious revolution, the only one that ever convulsed Egypt, that home of rigid conservatism, during several thousands of years.

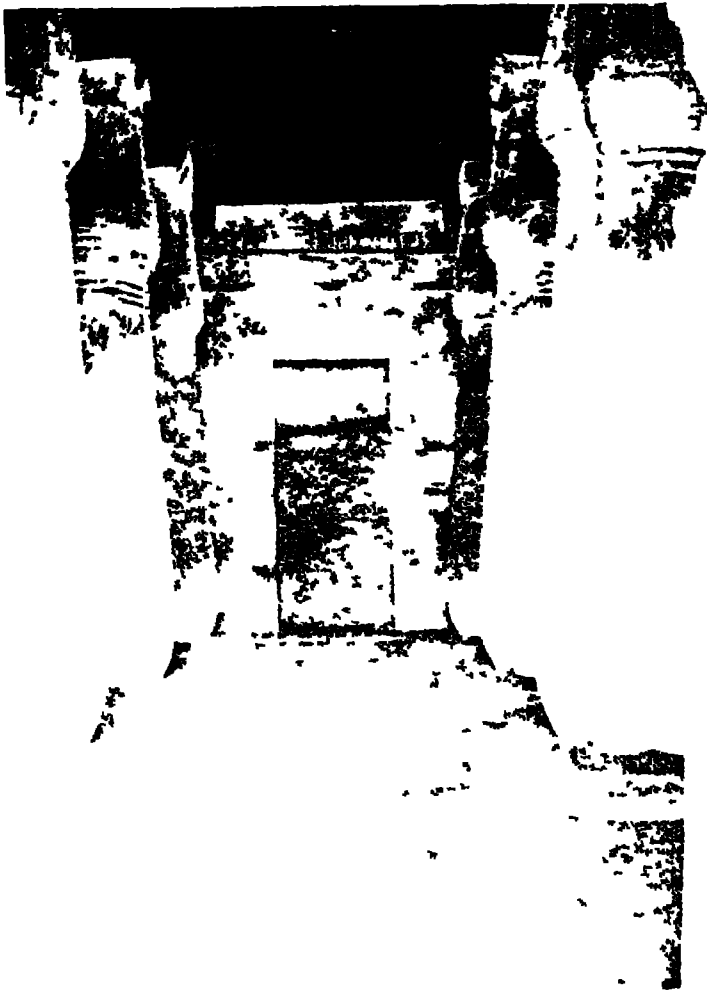
Under Amenhotep III. (1411-1375 B.C.) the priesthood of Ammon (Amen) at Thebes had grown dangerously powerful. On his death his widow, Queen Tiye, a remarkable woman of non-royal birth, encouraged her twelve-year-old son, now Amenhotep IV., to give precedence to the sun god Ra who after being paramount in earlier times had now been ousted by Ammon. The boy king



COLLAR OF TUTANKHAMEN'S ROBE

From a casket in the tomb of King Tutankhamen comes this collar of faience work; it consists of many coloured beads and pendants shaped like flowers and petals, and is put together in the precise order in which it was attached to the king's shirt.

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UNFINISHED TOMB THAT WAS NEVER SLEPT IN

At the foot of the hills north of Tell el-Amarna is the unfinished one of Akhenaten and Nefertiti. In the hillside of this the man built a tomb in which he and his wife would have slept. It was the tomb of Akhenaten and Nefertiti. It was never used. It was built in the year 1370 B.C. It was built by Akhenaten.

accordingly erected a temple at Thebes to Ra under the form of Aton (or Aten) the Sun's Disk, by which he intended to symbolise the deity behind the sun who gives heat and life to the world. He thus at once swept aside the worship of Ammon and with it that of the whole Egyptian pantheon substituting an ideal monotheism. Finding it impossible to make any headway in the stronghold of Ammon himself he decided no doubt with his mother's support on the bold plan of changing his capital. So he sailed down stream some 250 miles and founded a new city on a

virgin site "belonging to no god or goddess, no prince or princess, and of which no man could claim ownership." At the same time as an outward sign of his complete break with the old polytheism, he changed his name from Amen-hotep, 'Ammon is at rest,' to Akhen-aton 'the Aton is satisfied.'

This took place in 1370 B.C., the seventeenth year of his age and the sixth of his reign, when we find him already married to the beautiful Nefertiti and the father of two daughters. We learn that, after a great sacrifice on the thirteenth day of the eighth month, the Pharaoh drove out in a two-horsed chariot of electrum to one of the royal boundary stones, on which the solemn ceremony of dedication is described. There, in the presence of his newly appointed officials, he named the city Akhet-aton, 'the Brilliance of the Sun's Disk.' He declared the site to be chosen in obedience to a personal command of the Aton, to whom he dedicated the entire domain together with every man and beast and all that grew upon it. Raising his hand to heaven the king then took a solemn oath not to remove the landmarks. These monuments which are among the most remarkable of antiquity are hewn in the face of the surrounding cliffs, three on the west and eleven on the east side of the Nile. The largest is 26 feet high. At the top are figures of the king and queen with one, two or three daughters duplicated on either side of a loaded altar table. Upon them descend the rays of the sun's disk each ending

in a hand to bless them. Below is the inscription sometimes as long as eighty lines. The broad tracks which were cleared and swept for the royal procession can still be traced across the plain.

The actual city rose rapidly under the initiative of this extraordinary young man. His architect Bek, instructed by his majesty himself, had procured red granite from Assuan, alabaster for the temples and palace was obtained from the Hatnub quarries close at hand, hundreds of bricklayers were unceasingly at work moulding sun-dried mud bricks for the houses of the new capital.



The central hall is of
 excellent security of
 entrance in the city
 and the hall is

RICH COLOURING OF THE NOBLE MANSION IN THE ITALIAN

At the north end about a mile and a half from the girdle of clints the Pharaoh had reserved a large area. Here he erected the temple to the Aton, 250 feet square, within an oblong enclosure half a mile in length. Close by were the palace buildings, covering a space of 1,500 by 500 feet. A painted stucco pavement of remarkable design is one of the few relics of their splendour. Around a tank in which fish and wildfowl swim amid the reeds are grouped thickets of lotuses and other water plants while calves frolic amongst them and birds flutter overhead. The postures are so instantaneous, the colouring so delicate and the style so naturalistic that we may, perhaps look to Cretan artists for its execution.

South of the royal quarters lay the town itself. Three main arteries were projected running parallel with the Nile. Their irregularity, however, suggests that the magnates pegged out their claims hurriedly, regardless of correct alignment. The most westerly, the King's Highway, led direct from the palace to the King's country park beyond the limits of the city. The latter gradually extended eastwards to the High Priest's Street, an imposing thoroughfare 130 feet wide. On these stood all the largest houses, the fashionable quarter being nearest to the royal residence. The cross streets are narrow, straggling lanes, generally containing only small houses. The streets are neither metalled nor paved, merely the levelled surface of the plain.

The larger residences, each standing clear within its own walled enclosure, present a striking picture of the comfort then enjoyed, and must have made Akhetaton look like the garden city of Calvea (Silchester) in Roman Britain. The visitor, entering through a vaulted porch, would find himself in a garden neatly laid out with beds for flowers and vegetables. Beyond the necessary well several rows of trees whose stumps are still to be found embedded in their little pits of soil led up to a summer house on a raised

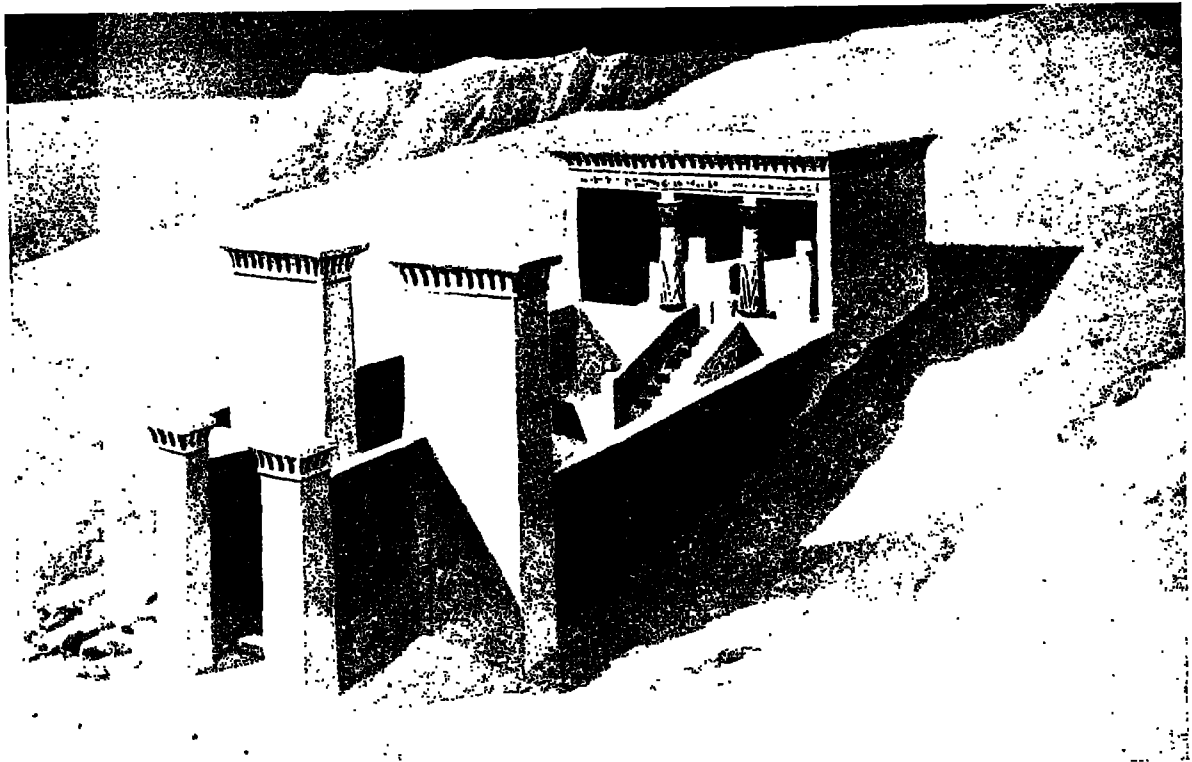
platform. He would then reach the main house by a long flight of easy steps passing beneath the wide window of the loggia. Turning to the right at the top he would enter the lobby on the door-posts of which he would see inscribed the name and titles of his host. Another right-angled turn would bring him into the loggia, a gallery with a row of columns down the centre. Here he would be ushered into the reception room through large folding doors and would find himself in a magnificent apartment in the centre of the house 12 to 16 feet in height. Four slim wooden



AY AND HIS WIFE ADORE THE ATON

On the right-hand side of the entrance passage in the tomb of Ay are these low reliefs of himself and his wife in adoration of the Aton. The limestone rock was covered with fine plaster and the figures then exquisitely coloured, the unusual variety of the whole composition, characteristic of Akhnaton's 'art nouveau,' speaks for itself.

Photo by A. G. K. Hayter



TOMBS THAT LINK TUTANKHAMEN WITH TELL-EL-AMARNA

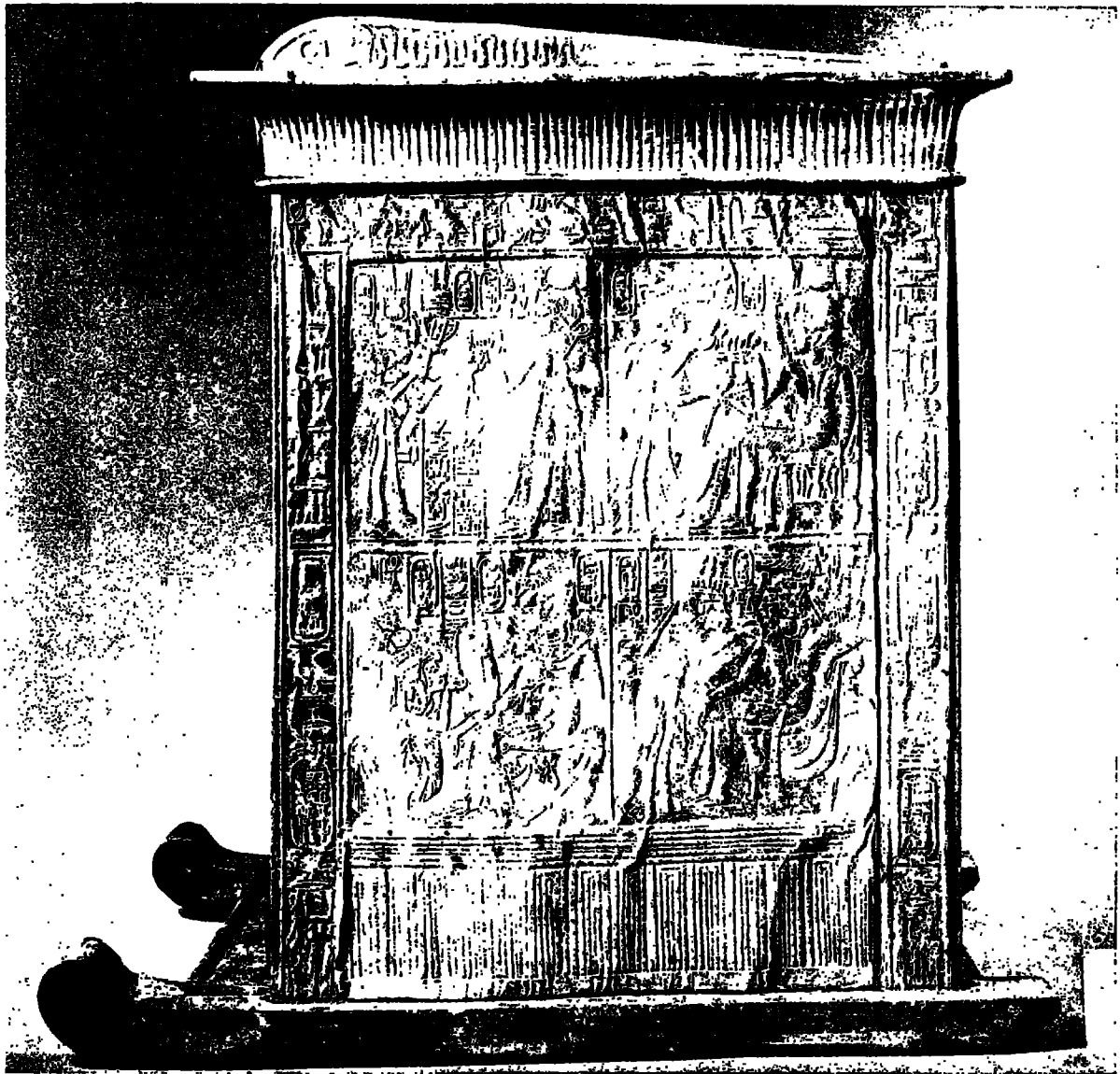
Upper illustration: A restoration of one of the many tomb chapels, probably of the upper middle classes, that surrounded Tell-el-Amarna. This particular one is of interest as having contained stelae with invocations to Ammon, Osiris and other gods as well as to the Aton, thus probably belonging to the transitional period of reaction under Tutankhamen. Lower photograph: Main hall, with status recess on right, of one of the rock tombs of the rich official classes. The noble in this case was Tutu, Akhnaton's Foreign Secretary; but he was never buried here, for he was probably the man who later assumed a name more familiar to us—Tutankhamen.

Restoration by permission of the Egypt Exploration Society; photo by A. G. X. Hayter

columns painted red, with green palm leaf capitals and circular stone bases, supported the beams crossing the ceiling. The upper parts of the white plastered walls had a grey tone, enlivened by large festoons, like mummies' necklaces, hanging from a decorative frieze of lotuses.

The guest was conducted to a shallow limestone pan, where, seated on a stone stool, he had water splashed over his hands and feet. Thus refreshed, he would join his host on a low brick divan against

the opposite wall, lounging on mats and cushions. In cold weather a charcoal fire would be lit in a pottery brazier sunk in the floor; the actual ashes were found in many of these braziers—evidence of the sudden evacuation of the city. The only means of lighting and ventilating this central hall, except through the doors, was by stone gratings placed high up close to the ceiling. At either end of the inner wall was a sunken panel with a painting of the royal family adoring the



TUTANKHAMEN IN VARIED SCENES ON A GOLDEN SHRINE

From the tomb in which Tutankhamen was laid to rest, the wonderful Luxor treasure house, comes this small shrine of the usual shape. It is cased completely in sheet gold and the double doors in front are fastened with ebony bolts. But its charm lies in the beautiful little vignettes of palace life with which it is embossed—Tutankhamen and his queen in all manner of naive, domestic relations. A jolly, happy couple, one feels, removed by gulfs of thought from the half deified Pharaohs of other periods.

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AKHNATON PORTRAYED BY THE ART HE INTRODUCED

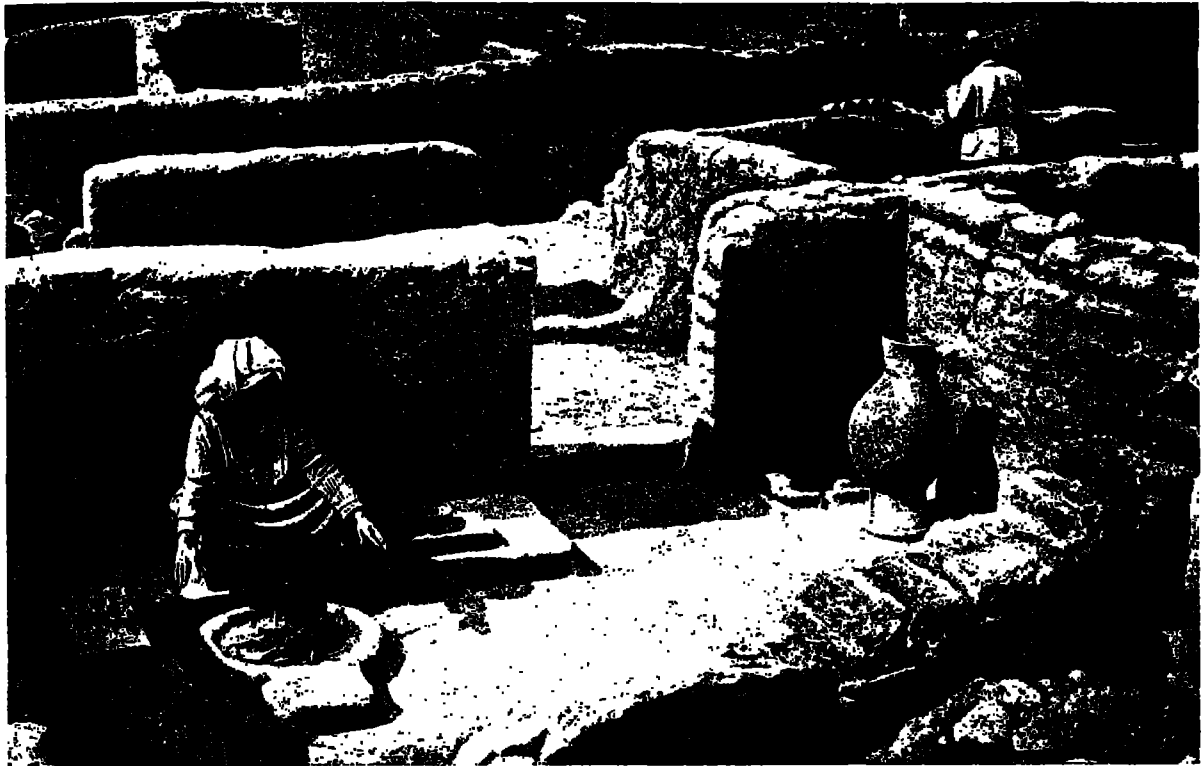
Compare this relief of Akhnaton and his lovely queen Nefertiti (see page 339) with the portraits of Tutankhamen in the previous page and page 1130, the art is the same, better even, but several contrivances such as the elongated head and protruding stomach are noticeable. It was among the early discoveries of the Germans on the site of Tell el-Amarna and is now in the Berlin Museum.

sun's disk. On its side posts are again recorded in coloured lettering the owner's name and titles. Between these panels another double door leads into the harem or wife's quarters. A square sitting room, furnished with a pillar and a second divan, is surrounded by smaller rooms evidently for the children and for wardrobes, represented by shelves on brick supports. The master's bedroom is in one corner on that side of the house, the position of the bed being indicated by a raised brick platform at the end. Between his room and the harem are the bathroom and the earth-closet. The "bath" is merely a stone slab on which the occupant was

douched from a large jar. Limestone panels protect the walls and a side channel carries off the water, either into a receptacle sunk in the floor or into the courtyard through a hole in the wall. Of the remaining rooms some are store rooms, others single bed rooms. That for the visitor was probably placed near the entrance at one end of the loggia. The brick staircase opening directly out of the hall led to the flat roof, where only light sun-shelters were usually erected. Here the women folk could spin and weave.

In the courtyard were the servants' quarters, the stables and cattle stalls, the corn bins and the cooking ovens. The barley was stored in small chambers with domed or gabled roofs, both floor and corn being covered with a layer of fine charcoal to preserve it just as the peasant does to day. The baking was done in a big cylindrical jar of pottery, encased in mud to retain the heat and open at the top for the insertion of the bread trays. The charcoal fire within was stirred with a wooden poker pushed through a hole left for the purpose at the side.

We know the names of several officials who lived at Akhetaton. Nekht, Vizier and overseer of the city, occupied the finest of all the houses, 116 by 85 feet in size. Another vizier, Rames, was also General of the King's Forces and Royal Scribe. He had been Master of the Household to Akhnaton's father, Amenhotep III. His house gives us the rare information of his wife's name. "The mistress of the house, Nebt-ant. There were also the houses of the Master of the Horse, the Keeper of the Cattle of the Aton, the High Priest Pa-wah and the King's secretary. It was indeed a busy city. That new art, which broke



DETAILS OF DOMESTIC INTERIORS OF ANCIENT EGYPT

Much of the private life in Akhetaton, Tell-el-Amarna's long-dead predecessor, may be deduced from an examination of the private houses that have come to light. Here, in the upper photograph, is the living room in a cottage in the workmen's suburb; note the water jar, food bowl and hearth. Bottom left, circular brick bins slightly sunk into the ground and probably domed with a hole in the roof, used as receptacles for grain. Bottom right, a bathroom in a middle-class dwelling in Akhetaton.

From "The City of Akhetaton," Egypt Exploration Society

away from the old stiff conventions and based itself on the study of nature, is also due to the king's initiative. The court artist, Aton, has given us a picture of his studio in which he is colouring a statue of Bekhtaton the king's sister. Another sculptor, Thothmes, has left behind many attractive royal busts and relief models. From the glass and glaze factories we have inlaid tiles, amulets, cups, rings and beads, chiefly in blue glaze.

Close to the military post which guards the southern entrance to the plain the king had laid out a pleasure resort which he called Maru-Aton,

"the Precinct of the Sun's Disk." It consists of two rectangular enclosures, one double the size of the other; the smaller contained a home farm and a pond, while in the larger one, which was screened off by a high wall, were an artificial lake with a pier for the use of the royal boating party, a temple, a summer house and a hall of audience. Here, no doubt Akhnaton was glad to escape from the burden of empire and to spend a happy holiday, either sailing thither in the royal barge or else driving in his chariot with his wife and daughters, as depicted in his nobles'



TUTANKHAMEN AND HIS QUEEN IN GOLD AND GLASS AND JEWELRY

The body of Tutankhamen's coronation throne is covered with sheets of beaten gold inlaid with faience, polychrome glass and exquisitely cut precious stones. On the back panel, which for quiet pathos and superb workmanship is unequalled among the fruits of archaeology in Egypt, is a relief of the king sitting on a cushioned seat in his palace, while his queen with a gesture of delightful intimacy offers him a cup. Above the group the sun-disk radiates life symbolised by long rays ending in little hands.

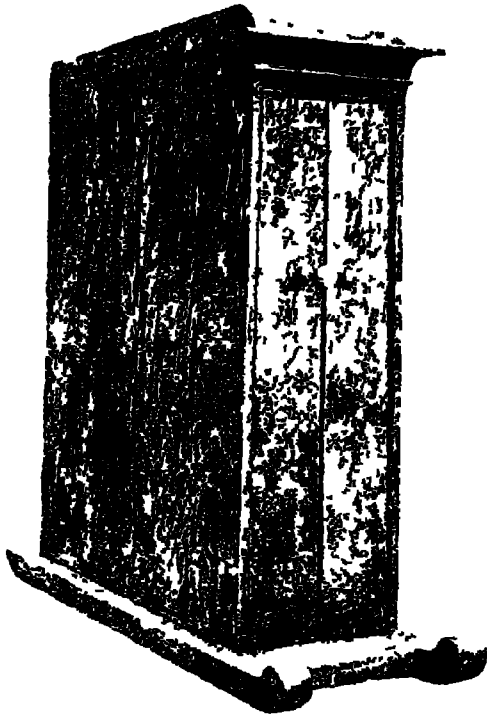
"The Times" world copyright

tombs. We may certainly conclude that the Pharaoh entertained right royally during this day's excursion. The cellar at the back of the audience court was found crowded with broken wine jars and 280 jar-sealings bearing labels descriptive of the various wines, such as "Wine of the House of Akhnaton," "Wine of the Southern Pool," and in many instances even the date of bottling and quality of vintage were noted.

In the meantime what was happening in the outer world? Akhnaton had succeeded to a vast empire in Asia, extending as far as the Euphrates and up the Tigris to Assyria. This motley collection

of kings and petty dynasts required a strong hand to keep them in order; but the Pharaoh was totally indifferent to what was happening abroad. This we learn from a chance discovery by native diggers. In 1887 they found on the site of the Royal Record Office several hundreds of clay tablets inscribed in cuneiform characters. These are the actual correspondence which reached the Foreign Office from Palestine, Syria, Babylon and Assyria. In them is told the sad story of the gradual loss of the Egyptian Empire in Asia. We read of the quarrels and disaffection of the local rulers, the desperate appeals for help from Egyptian governors and

the few faithful adherents, and the gradual absorption by the Hittites of North Syria. But Akhnaton turned a deaf ear to all, and was content to abandon his Asiatic empire to anarchy or foreign rule. His motto was Peace. He was engaged in developing his monotheistic ideals at home. At



HOW MARTIAL EMBLEMS WERE HOUSED
In the antechamber of Tutankhamun's tomb were found several small wooden shrines each containing some sacred object. Above is a photograph of one of these shrines before it was opened; the Royal Necropolis Seal may be seen intact. At the top, right, is a closer view of this seal, cracked but still holding firm.
The Times world copyright

Thebes he was defacing the monuments of Ammon, while in his own capital he was cutting for his nobles fine rock tombs never to be completed.

About a mile and a half to the east he built a walled village for his workmen (see page 141). This is a remarkable example of town planning. It is an exact square of 230 feet, six lines of four roomed tenements, all 16 by 32 feet, open on five parallel alleys, all 6 feet 6 inches wide. But the street scene was typically Oriental: some ran cellars under the alley from their front rooms, causing a hump in the ground; others put their big water jars outside their doors or kept their cows and donkeys tethered to the street walls; elsewhere a brushwood awning gave shade to women, who sat out spinning. Inside, the living-room was often shared with pet animals and the staircase was crammed into the kitchen.



On the slopes overlooking this rookery the workmen had raised a series of tomb chapels. These unique buildings of plastered mud brick rise in three stages up the hill side. The outer court with its gateway towers leads to an inner court distinguished by a low bench running all round for the worshippers. Beyond this, and connected by steps, is the actual shrine, with niches in its back wall. A brick pedestal altar stands on the shrine floor, and the offerings were made in whitewashed pottery bowls. This third section was handsomely roofed in with a portico supported by mud brick columns plastered and painted.

Space does not suffice to describe the grand tombs which Akhnaton employed these workmen in hewing out of the rock face of the surrounding cliffs. They were built only for those whom the king delighted to honour. Some, like Ay, Tutankhamen's successor, were actually buried at Thebes. In every case the chief interest centres round the king; the noble himself is introduced merely to illustrate the royal munificence. Each tomb has its own private road still visible, running across the plain. On the flat heights above guards kept watch day and night. Their patrol paths and huts remain as evidence.

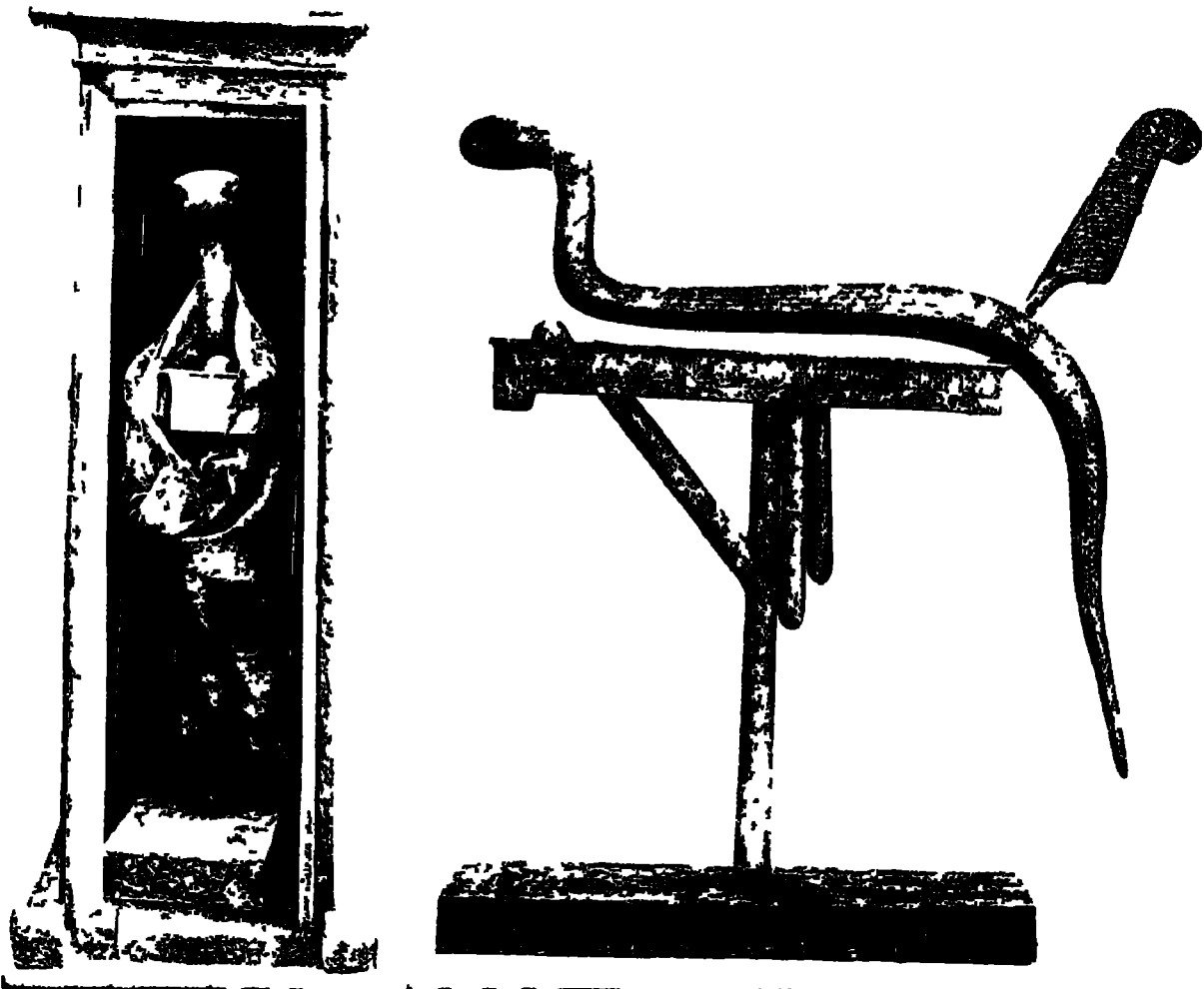
In view of Lord Carnarvon's famous discovery, any connexion of Tutankhamen with Tell-el-Amarna is of interest. A fine tomb in the eastern cliffs was begun for one of Akhnaton's greatest nobles, Tutu. The inscriptions on its walls record that he held eight important offices, amongst them those of Lord Chamberlain, Chief Commissioner of Works, Lord High Treasurer, and Foreign Secretary. In fact, he was "almost, if not quite, the highest official in the realm, enjoying the king's closest confidence. Such an one can hardly be other than the later Pharaoh who married Akhnaton's third daughter. The addition of "-ankhaton" to his original name on his accession would be entirely suitable.

Interesting evidence has been obtained from one of the tomb chapels of the wave of reaction to Ammon worship, to which Tutankhaton

ultimately gave way. There a painted tablet was found, dedicated by one Ptah may (itself a forbidden name) whose daughter was called 'Hand maid of Isis'. This Ptah may hedges by addressing prayers both to the expiring Aton and to Amen, Shed and Isis, deities of the old pantheon. Tutankhaton himself seems to have temporised at first, restoring the temples of both religions. Finally the old cult won back as it was by the army under Horemheb. Tutankhaton abandoned Akhetaton for Thebes and changed his name to Tutankhamen to emphasise his conversion to the old state religion.

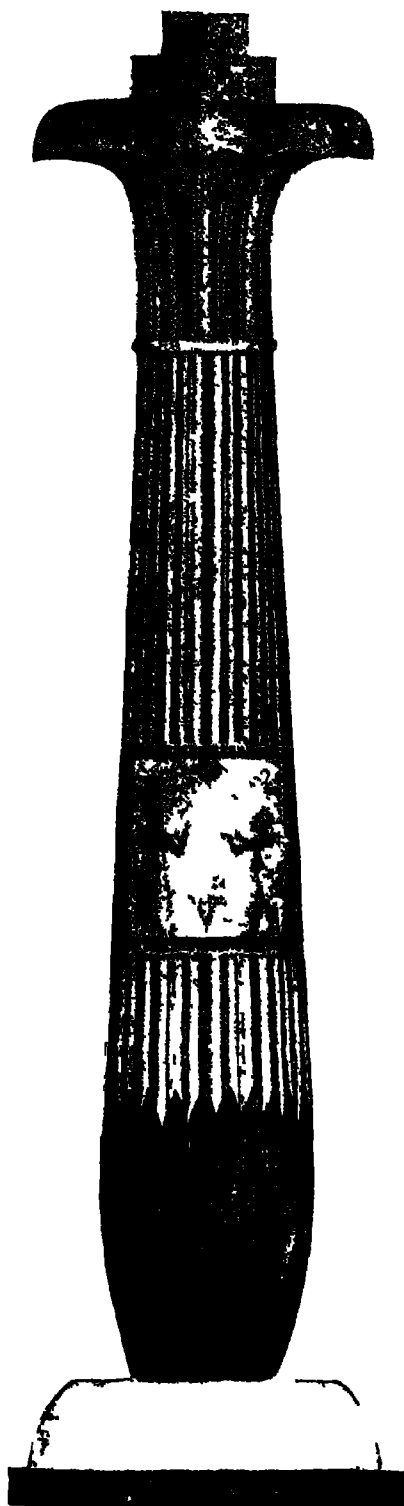
And what is known of Akhetaton after its desertion? The city was officially evacuated about

1355 B.C., when the court and its dependents left. But the fertile strip along the river bank continued to be cultivated by a few peasants, as is the case to day. Of their slight occupation there is evidence from the time of Rameses III (1198-1167 B.C.) down to the sixth century B.C. After that silence reigns until the Christian era when the Romans pitched a camp near the south end of the plain and Coptic hermits dwelt in the nobles' tombs, even converting Panehsi's hall into an apsidal baptistery. Here the carvings of the original Aton worship are to be seen under the half-fallen plaster on which the Christians painted their emblems. Such is the story of Akhetaton, the short-lived creation of Akhnaton the so-called "Heretic King".



SNAKE STANDARD OF AN EGYPTIAN NOME AND ITS SHRINE

Above are two photographs illustrating the contents of such a shrine as the one in the preceding page. On the left the double doors are seen open and displaying the sacred standard within swathed in its crumbling pall, on the right is the serpent and feather standard itself. It is of wood heavily gilded and was the emblem of the tenth "heh" (nome) of Upper Egypt, known as Uazet, with its capital at Tebu or Aphroditopolis. It was placed in the tomb as a protective influence for the dead king on his perilous journey to paradise. These, and all the other objects in the tomb, were discovered by the Time world expedition in 1922. The objects were taken by Mr. Harry Burton of the Metropolitan Museum of Art New York Expedition and are lent by courtesy of the Trustees and the Director of the Egyptian Department.



LOVELY FRESCOS IN A WATER GARDEN WHILE JAPANESE REPOSED

At the south end of the Amur's plan was a complex of buildings called for a reason unknown Mau Ats the first of them its main feature was an artificial lake. In a kind of water court were a number of low tanks with their sides (as well as the walls and floor of the court) painted with lovely natural designs of birds and trees and water plants such as those above. The entrance to the whole precinct was a court with four rows of nine graceful pillars each of which one here restored from the ruins of the old building.

Reproduced from the original illustration by permission of the artist.

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Prehistoric Rock Carvings in the British Isles and Brittany

By E. W. Lynam

Assistant Keeper, Printed Book Department, British Museum

PALAEOLITHIC man was not only a hunter but a gifted and happy artist, who delighted to draw beasts and scenes of the chase upon his cave walls and on his implements. In the British Isles, unfortunately, an Arctic climate restricted his movements and his increase, there are to be found only three examples of the free and vigorous art characteristic of him, and of these, that discovered at Grime's Graves is ascribed by some authorities to a later age, the Neolithic. In any case, the whole art is more characteristic of Spain and Southern France and has been already described in pages 143 to 153.

Apart from these, the oldest rock carvings in Britain were probably cut by men who lived at the end of the Neolithic and early in the Bronze Age, c. 2100-1500 B.C. their descendants still form a strong element in the population. Though so comparatively late in time, these carvings have none of the grace and art of the palaeolithic engravings. Their interest lies in the light which they throw upon a growing civilization and in the secrets which they still hold. While palaeolithic art may be called individualistic, the art of perfectly free human beings, these later petroglyphs (rock carvings) are the art of a community. They are the work of people bound and disciplined by social and religious organizations.

Such rock carvings then, probably contain the key to the religious beliefs held by the Bronze Age ancestors of the British people especially to their beliefs concerning death and the life after death. Nearly all of them, in Brittany as well as in Britain, are found on the huge stones of

megalithic dolmens or burial chambers in which were interred the great men of the time. The dolmens are, or were covered by great tumuli or barrows. Only a profound and widespread religious feeling could have moved man in an age when the use of metal was little known, to construct such laborious monuments as these chambered tumuli, and that feeling is expressed more imaginatively in the dolmen carvings. In truth the Bronze Age barrows, round which the people held councils, tribal assemblies, and solemn games, must have been to them much what churches were to medieval Christians.

The majority of the petroglyphs especially in Scotland and Ireland consist of a medley of figures placed on the rock without order or apparent connexion, except in a few cases, ornament can hardly have been intended. The dolmen figures are obviously symbols religious, magical, or totemistic. Some are images of real things, used with a hidden meaning, others like the solar ship are symbols already familiar in Southern Europe. Most of them show the influence of neolithic art which employed only geometrical and linear patterns and avoided the representation of living and organic things.

If these grave sculptures represent the religious art of the age, then the imagination of the artists seems to have been restrained by taboos and traditions more complicated than any ever imposed by Christianity. Under the influence of rectilinear designs even the image of the earth deity suffered degradation into geometrical patterns as we shall see. And once a character—or a sacred sign—becomes



INSTANCE OF BRITISH PALAEOLITHIC ART

A comparison of this carving on flint crust, of an elk disturbed while browsing with the palaeolithic art in pages 143-153 will show that they belong to the same art phase. It comes from Grime's Graves in Norfolk, two other British examples are known. Reproduced from the *Antiquary's Journal*.



RUDE RECORD OF A NEOLITHIC FIGHT

Found at Cloonhulough in Ireland, this engraved fragment is probably one of the oldest examples of neolithic carving in the British Isles—truly a mighty fall from palaeolithic grace. The vertical strokes with circles and knobs at the top, and perhaps the plain crosses, may represent men—possibly a battle between tribes.

From R. A. S. Macalister's "Ireland in Pre-Celtic Times."

conventionalised there is a tendency to multiply it; the more its old significance is hidden, the more extravagantly is it used. Thus the repetition of a figure several times on a single stone which is so frequent in these petroglyphs may have been to give it force just as a modern man will repeat a brief curse in order to make it effective.

Ireland is particularly rich in rock carvings, possibly as a result of her busy commercial intercourse with other countries in the early Bronze Age (c. 1500-1000 B.C.). They show that in her rock sculptures, as in other things, Ireland was a meeting place of strange elements, a source of surprising combinations. England, on the other hand, possesses only one remarkable example of Bronze Age sculpture. The numerous petroglyphs of Brittany are in some cases rather older than these; they are important as marking the route by which cultural ideas and symbols travelled from the Iberian peninsula to our islands. One of the most interesting examples, that at the "Table des Marchands," Locmariquer, has already been dealt with in this work by Mr. Stevens (see page 815). The most remarkable carvings are found near the coast of Morbihan, around the Golfe du Morbihan, Locmariaquer, and Carnac. Scotland possesses many stones carved with circles, concentric circles and occasional spirals, but these have no features that give them any exceptional interest.

Some of the symbols on British dolmens are found in a rude form even on palaeolithic objects. They are such simple designs, however, as man would make instinctively, and probably began in no special time or place. One of them is the "twig" or "fern leaf" figure, which occurs at New Grange and Lough Crew, in County Meath, Ireland. On palaeolithic objects from Spain it sometimes represents hair, but its later meaning is unknown. Another is a series of half circles or demi-ellipses arranged concentrically, with an eye or dot in the middle. It is found repeatedly at New Grange, Lough Crew and Gavrinis, an islet in the Golfe du Morbihan. It suggests at once the image of the sun on the horizon, yet sun-worship had not developed in Western Europe in palaeolithic times. It may possibly be a picture of a cave, from the entrance. M. Déchelette's interpretation of this as a Bronze Age symbol is given

below. Yet another is the spiral, but its appearance in the north is dealt with later.

Most of the other figures, belonging to the late Neolithic and early Bronze Ages were probably introduced into the British Isles either through the spread of cults and ritual practices or through commerce. The former influence, which implies some immigration, seems to have been the more powerful. The symbols or motives drifted up



CLUES TO NEOLITHIC RELIGION

Inset on the left, the "ship of the sun"; above, various signs among which the ship is seen again on the right. The top most figure of all is probably the "sun horse" bearing the sun. From "New Grange," by George Coffey.

from Southern Europe along two routes, either from the Iberian peninsula through France and Brittany, or from the islands and shores of the Aegean Sea by way of Central Europe and Scandinavia. Comparative archaeology has shown that there was a busy intercourse by sea all round Europe 3,500 years ago, and a free interchange of ideas between peoples separated from each other by thousands of miles of continent and by the greatest differences of race and language.

Carvings on a slab at Cloonfinlough, in King's County, Ireland, are among the oldest in the British Isles, for they closely resemble early neolithic sculptures in Spain. The vertical strokes with circles and sometimes a knob, at the top represent men. The cross-shaped signs on the upper half of the stone are probably also men, and Prof. Macalister suggests that the whole may represent a battle between two tribes. Depressions like footprints which occur here are found also but much larger, on rocks in Brittany, Sweden and Egypt. They usually appear in pairs and are believed to have had a religious association.

A large group of the rock figures is connected with sun worship. The most common and probably the oldest of these is the circle with its elaborations—the circle surrounding a cup or pit and the concentric circle. This symbol is found on monuments to the dead all over Europe and North Africa. Sun worship seems to have reached North Western Europe in neolithic times and flourished from that time far on into the Bronze Age.



SPIRAL-COVERED SLAB AT NEW GRANGE

Just west of Drogheda in Ireland is a remarkable group of burial mounds identified with the Brugh na Boinne of Irish legend. Consisting of stone chambers covered with earth, they abound in rock carvings prominent among which is the spiral as this photograph of the entrance to the largest of them at New Grange will show. In this as in some of the following photographs the markings have been slightly emphasised but never so as to impair their value.

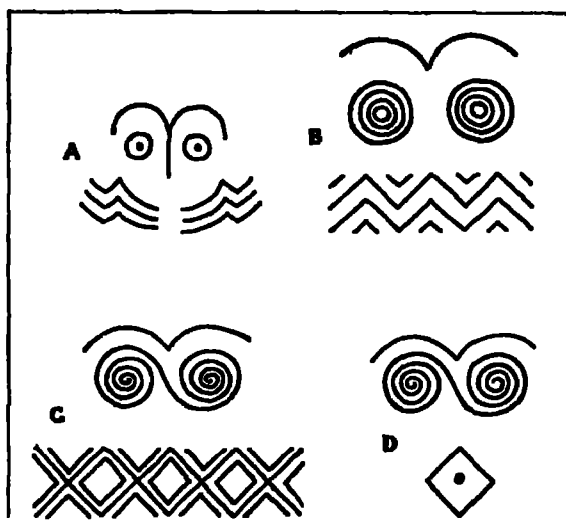
From New Grange by George Coffey

The concentric circles with a channel leading out from the centre have been variously explained. Some archaeologists believe that they are drawings of the ring-forts subject to the chief buried in the tomb on which they are carved. The channel would represent a gangway or entrance through the fort walls. It is also suggested that groups of

concentric circles are rude maps of the territory and strongholds of the dead chief. When the channels from them join together, it would indicate that these forts were all of one mind or tribe, subject to one ruler. Another theorist holds that groups of circles are astronomical charts.

The ship or the sun—a graceful symbol in Egypt, South-Eastern Europe, and Scandinavia, appears at Mane Iud in Brittany and at New Grange and Dowth in Ireland abbreviated into something like a rude comb. The teeth of the comb represent the little rowers. The solar ship originated among early maritime peoples, who believed that during the night the sun was borne on a ship across a wide sea which lay between its setting and its rising points. In most cases a round sun is drawn above the boat. One carving at Lough Crew may represent a ship with an eel fish—a version of the dolphin of Southern Europe—on the prow. It is difficult not to believe that the carving on the right of the lower illustration in page 1134 was not meant to be a boat with oars.

The solar horse was a blood animal which appears prancing on the ornament of many metal and pottery objects of Italy, Central Europe, and Scandinavia. What may be a drawing of him, very



SIGNS EVOLVING FROM THE 'OWL FACE'

From the very crude suggestion of the face of some female deity of the Stone Age (Fig. A) arises the inspiration of the more geometric decorations (Figs. B, C, D) of the Bronze Age in Ireland, Scotland, and Brittany. Eyes become first concentric circles and later, connected spirals.
After Déchelette

much humbled but still bearing the sun on his back, appears at Lough Crew. The myth of the solar horse persisted in one form into classical mythology. Crosses within circles, rayed circles and "flowers," of which numbers are carved at Lough Crew, probably all represent the sun. The swastika, a well known solar symbol, appears on a rock at Ilkley Yorkshire, elaborated in a style most probably derived from Scandinavia. The image of the sun giving out light and energy is reproduced in objects of bronze evidently worn as amulets. There is evidence that the image of a snake was associated with sun worship during the neolithic period. Carvings on the dolmen in the island tumulus of Gavrinis are sometimes believed to represent snakes, though they may merely be zigzags like those on Irish monuments. The figures at Gavrinis are very different from anything else in Brittany.

The appearance of the spiral motive, carved elaborately and profusely, on stones at New Grange is very curious and illustrates the dependence of art upon trade. While the spiral covers the great stone before the entrance of New Grange and is repeated on many stones in the north of Ireland, it occurs only once in Brittany, whither it was imported from Ireland, and only in the northern part of England. It is now agreed that this design came to Ireland from Hissarlik (the pre-Homeric city of



A MEDLEY OF CARVINGS AT KNOCKMANY

A further instance of Irish rock carving, at Knockmany in Tyrone. Several distinct signs are exemplified—the wavy and angular zigzag, the concentric circles, triangular markings, the cup shaped hollow, and others of a less definite type. The "face" in the centre is probably accidental.
From "New Grange," by George Coffey



IDEAL TYPE OF THE "OWL FACE" STATUE

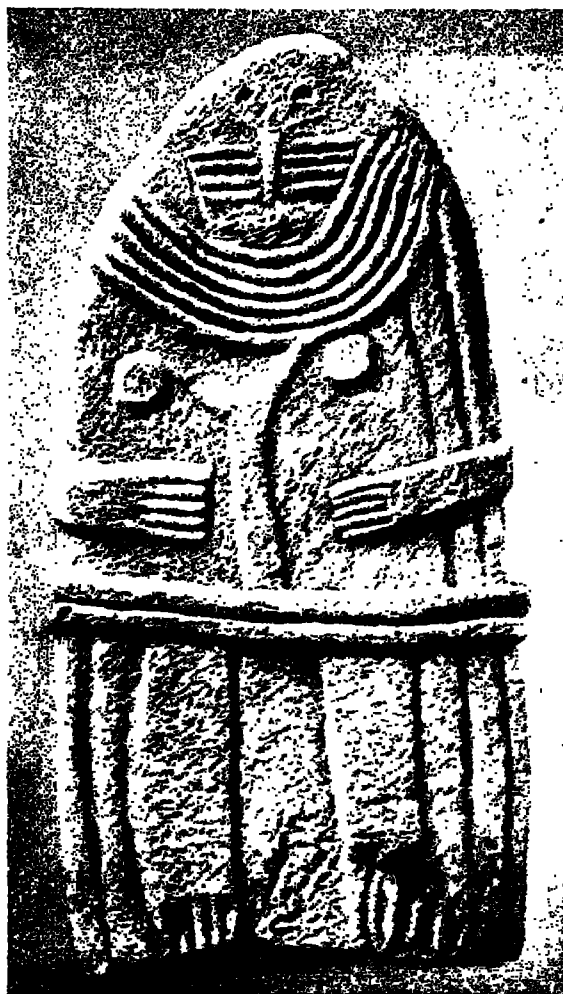
From their resemblance in shape to a Gothic arch, these statues are called "ogival." One of the most life-like carvings of the age is illustrated above; it stands beside the church of Saint Martin, Guernsey. Expressing the same motive as the French figure shown below, it typifies a much maturer art.

Troy) and the islands and kingdoms of the Aegean, where it was a popular form of ornament from c. 2400 to 1400 B.C. It was introduced thence into Scandinavia by the traffickers who travelled overland from the head of the Adriatic to the Baltic Sea to get the precious amber of the north—the route is now known as "the amber route." From Scandinavia the spiral reached Scotland, where it appears on rocks, as well as on several curious stone balls. It came to Ireland in the Bronze Age, and flourished there. Some antiquaries have inferred from this that the great tumuli of Brugh na Boinne, which include New Grange and Dowth, mark a settlement of conquering invaders from Scandinavia. However that may be, the spiral which was only an ornamental motive at Crete and Mycenae seems to have acquired a religious significance in the British Isles.

The "owl face" figure is one of the most important among British petroglyphs. It is the only representation we have of a deity in person; and it is also, according to M. Déchelette, the origin of a diversity of rock signs in Brittany and Ireland. This is the face of a female deity, and

though it is hardly the sort of face that launches a thousand ships, its history goes back to pre-Homeric Troy. Her image is found all over Southern Europe, from Hissarlik to Portugal, at the end of the neolithic period. It is usually a small piece of stone, slate, wood or pottery, rudely shaped, without limbs, but bearing eyes, hair, tattooed cheeks and a neck ornament carved or painted upon it. Her figure early took the shape of a flat cone. In this form, provided only with the upper half of a face but ornamented with an axe or a bent staff, it appears on menhirs and on the stones of artificial caves in the Marne and Gard valleys in France.

According to M. Déchelette, when this image was introduced into Armorica at the beginning of the Bronze Age, it suffered the geometrical



INSPIRATION OF BRONZE AGE CARVINGS

A statue of the "owl face" goddess from Saint-Sernin in Aveyron, France. Though found far from Brittany in the north, it is important to remember that this figure in its degenerate expression is thought by M. Déchelette to be the commonest decoration of Breton and British carvings.

Photo by Z. le Roux

degradation already mentioned. The half-face became merely two circles, or dots in circles ("eyes"), with a double wave or "yoke" above them for eyebrows or hair. After this simplification, most of the elements were ignorantly multiplied. A second and third pair of eyes appeared lower down, and these were sometimes turned into demi-ellipses. This produces a figure occurring frequently in Brittany, and hitherto called a "shield" or an "octopus"; on similar idol faces in New Guinea the demi-ellipses low down on the cheeks represent ear-rings. In other developments the yoke became a zigzag above circles, the lines on either cheek, originally standing for tattoo marks, became zigzags, and these zigzags were soon elaborated into chevrons, lozenges and triangles. The rows of triangles at



FURTHER DEGENERATION OF THE "OWL FACE"
From the remains at Locmariaker (see page 83) comes this flat stone engraving. According to M. Déchelette it is a further evolution of the face in page 1137; the eyes at the top and foot are circular, and the two middle pairs demi-elliptical.

Photo by E. le Rouzic

New Grange are almost a reproduction of a pattern found engraved on slate idol plaquettes in Portugal. The triangle upon the latter is held to have been a symbol of the female principle or deity.

Introduced from Brittany into Ireland, these elements, their pictorial origin now forgotten, met a new pattern, the spiral, just introduced from Scandinavia. In Ireland, therefore, conjoined spirals are sometimes substituted for the "eye" circles. The Gavr'Inis petroglyphs, M. Déchelette believes, are later than the other Armorican carvings and show definite Irish influence. There, as in Ireland, the numerous demi-ellipses arranged round a central figure are multiplications of the "eye" demi-ellipses. There, too, appears the only spiral in North-Western Europe outside the British Isles. M. Déchelette admits that his theory of "*cherchez la femme*" cannot cover all our carvings of circles, cups and circles, and demi-ellipses, but thinks that old figures may have been adapted to a new purpose.

The woman idol or her cult may have reached the north in yet another disguise. The shape of a rude cone, in which she appears in the Gard valley, may have originated the conical or "ogival" sign on the Mané er H'roëk stone at Locmariaker. This shape is noticeable in many Morbihan antiquities, for example, in numerous little stone amulets, and in the Table des Marchands support-stone. If this be her image, she has indeed come at last to "*sans teeth, sans eyes, sans taste, sans everything.*"

The mysterious female image is conjectured to have represented an earth deity. Mother Earth and the sun would be natural objects of worship to an agricultural people. Her appearance on burial monuments would support this theory, for there has always been a close association in the primitive mind between the idea of death and burial and that of sowing grain. In prehistoric times the ceremony of sowing was commonly accompanied by human sacrifice. Thus this deity may be even more evil than she looks. M. le Rouzic, indeed, has put forward a theory of sun and earth worship for Brittany. In the signs on the Mané er H'roëk stone he sees agricultural emblems; the axes are "axe-ploughs" and the limp animal at the bottom is an ox, the wavy lines being abbreviated horns of oxen.

M. Déchelette would explain the axes, both handled axes and plain celts, which appear in many petroglyphs in Brittany, and on a rock at Kilmartin, Argyllshire, by the undeniable early association of an axe with the woman idol. Hand axes were doubtless sometimes used to break the ground; and it has been suggested that these representations may be ritual implements



AGRICULTURAL SIGNS FROM BRITTANY

As an example of the "axe-plough" motif, according to M. Dechelette, this carved stone from the Mané er H'roek tumulus could not be bettered. He also sees an ox in the lower left-hand sign—indeed, horns and muzzle may well be distinguished.

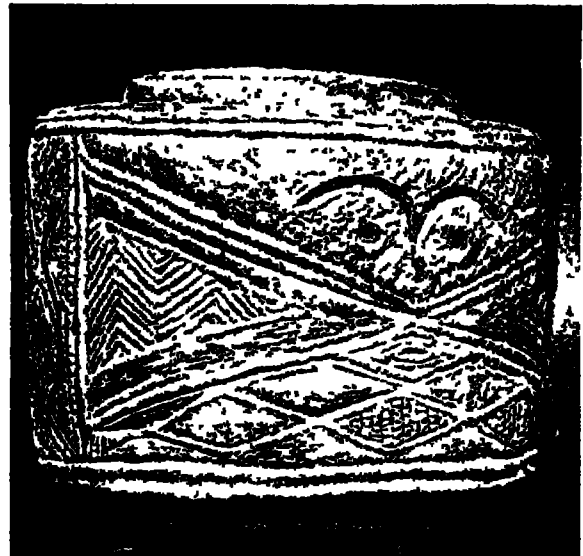
Photo by Z. le Roux

employed at the ceremony of sowing, first to carry out a human sacrifice and then to break virgin soil. Certainly polished celts made of jadeite callais and other rare stone seem to have been used as votive or ceremonial objects in Morbihan far into the Bronze Age. The handled axes on the Mané er H'roek stone appear also to have been ceremonial rather than useful weapons, like Lord Mayors' maces.

The "crooked staff" or "wand of authority" sign which occurs on the Gard menhirs and at the Table des Marchands may be regarded with great

probability as the picture of a hoe or pick for tilling. If M. Dechelette's theories about the "owl face" figure are correct, the design on the Folkton drums cannot have reached England through Brittany. These little chalk objects, found in the grave of a child at Folkton Moor, Yorkshire, are unique. Their engravings, not only the "owl face" but the "butterfly" motive (which is found on gold roundels at Mycenae) and the returning spirals, are all in the style of ornament prevalent in the neighbourhood of the Aegean c. 1500 B.C. Others, such as a saltire within an oblong, occur at New Grange. It is difficult to understand how these drums got to Folkton, possibly they were brought home from the Continent by British sea-rovers. They appear to have been regarded as idols, like the earlier southern images of the female deity. They are now in the Bronze Age gallery of the British Museum.

Apart from their fascination, these rock carvings of the British Isles and Brittany are valuable because they throw light on the movements of prehistoric cults and religious ideas associated with death and burial, on the early history of ornament, and on European commerce in the Bronze Age. On the other hand, in spite of clever theories, such grave sculptures are still to a great extent a puzzle to us. We understand neither them nor their purpose. It may be that we never shall, for our habit of logical thinking removes us even further than time from the minds that laboured so strangely and so devotedly 3,500 years ago.



IDOL, OR PLAYTHING OF A CHILD?

The Folkton drums, so called from the place of their discovery in Yorkshire, are anomalous. Little chalk cylinders from the grave of a child, they present a bewildering diversity of signs, such as the "owl face" which as we have seen is Breton, and the "butterfly" figure which is Aegean—both exemplified above.

By permission of the Trustees of the British Museum.



THE HOE AND THE PLOUGH ON THE BANKS OF THE NILE 3,000 YEARS AGO
 This scene of ploughing, hoeing and sowing is on the walls of the tomb of Nakht at Sheikh Abd el Kurneh, Nakht was in the service of the temple of Amun at Thebes in the eighteenth dynasty. The scene is the canal watered Nilotic plain. It will be observed that the plough has considerably developed since the fifth dynasty implement shown in page 1144, being much more massive; also that the seed is now sown behind and not in front of the plough. Labourers are also shown with hoe, and breaking clods with hammers. Above, Nakht and his wife, Tani, are making offerings to the gods, while a slaughtered ox is being dismembered.

Ancient Arts and Crafts. XIII.

The Story of Agriculture as Pictured on the Monuments

By Donald A. Mackenzie

Author of "Egyptian Myth and Legend"

THE wonderful civilization of ancient Egypt, which endured for at least forty centuries, was based on the agricultural mode of life. Its early Pharaohs were farmer-kings, and had themselves so depicted by their sculptors. A monarch like Amenemhet I. of the twelfth dynasty, who reigned, according to the minimum system of dating, from 2000 till 1970 B.C., was proud to record in his famous "Instruction," written for the benefit and guidance of his son and heir: "I grew corn. I loved the god Grain (Npr); in every valley the Nile begged of me. None hungered, none thirsted during my reign. All were well pleased with what I did, and said concerning me, 'Every commandment is wise.'" In like manner the great lords recorded in their tomb-inscriptions how they had extended irrigation works and promoted the interests of the farmers and farm workers in their domains.

The laws of Egypt were similarly rooted in the agricultural mode of life. In the legend of Osiris, as preserved by Plutarch, it is told that when he became king of Egypt he applied himself towards civilizing his countrymen by turning them from their former indigence and barbarity, that he taught them how to cultivate the fruits of the earth, and that he gave them a body of laws whereby to regulate their conduct. In his Paradise the souls of the dead cultivated the land and sowed and reaped grain as they had done during life. No one was admitted to that realm of bliss, however, who could not state truthfully: "I have not turned aside the water (from a neighbour's field) at the time of inundation. . . . I have not cut off an arm of the river in its course." In the "Book of the Dead," Osiris, with whom the dead Pharaoh was identified, is made to exclaim (in Breasted's translation): "The gods live as I, I live as the gods, I live as 'Grain' (Npr, god of grain), I grow as 'Grain' . . . I am barley."

It was in Egypt's Predynastic Age, some centuries before 4000 B.C., that agriculture was introduced into Egypt. From the stomachs of predynastic Egyptians, whose bodies have been

preserved in the warm and dry sands of the Nile valley at Naga-ed-der, quantities of food have been taken, and among these have been found husks of barley and millet, portions of root tubers, and other plants, as well as fish scales and fragments of fish and mammalian bones. There can be no doubt, therefore, that the change from hunting to agriculture as a mode of life was of great antiquity in the valley of the Nile, and it is of special importance to note that the barley and millet cultivated were native to Egypt.

When the discovery of agriculture was made the interests of the predynastic Egyptian were greatly extended beyond tracking animals and studying their habits. He found it necessary to measure time, and in this connexion he became the pupil of the Nile, the most wonderful river in the world, which from time immemorial has been rising in flood once a year and depositing on the sands of Egypt fresh quantities of rich alluvial soil impregnated with fertilising properties.

The story of agriculture in Egypt begins, indeed, with the Nile. On its banks the early people found growing wild the barley and millet grasses which they discovered to be suitable for food. It was perceived that these grasses grew best when they received ample nourishment from the irrigation pools and channels formed by the generous river. By imitating nature, the early agriculturist learned how to irrigate the wastes and make the desert "blossom like the rose"; while by making records of the movements of the river and the waxing and waning of the moon, he was enabled to introduce the calendar which Julius Caesar imported into Rome, and which is now, with subsequent adjustments, used all over the civilized world.

Egypt, which first gave us the calendar, is, as Herodotus put it, "an acquired country, the gift of the river." The Nile is about 4,000 miles in length, and stretches across the golden desert sands to the east of the vast Sahara Desert, like a ribbon of cobalt-blue, fringed by banks of green vegetation. The long narrow valley which is Egypt is enclosed for the greater part by strange



OXEN OF ANCIENT EGYPT TREADING OUT THE CORN

From the mastaba of Ptahhotep and Akhenhotep at Saklara, comes this really excellent representation in low relief of cattle on the three-hung floor. At every turn in considering the most diverse aspects of Egyptian life, we are arrested to marvel at the wonderful qualities of Egyptian artists. This scene of treading out the corn transports us at once to the immemorial East—apparently the dwellers by the Nile were no less humane to their dumb servants than Moses, who would not suffer the ox at this task to be muzzled.

The artist: Sadding, Geneva.

pink hills, and shrinks in places to the dimensions of some modern farms, while elsewhere it is from ten to thirty miles in breadth. When the Nile approaches within about a hundred miles of the Mediterranean it forms the broad Delta of Lower Egypt. The great river has a double source of supply. In Nubia it is fed by the Bahr el-Azrek, or Blue Nile and the Atbara, which are greatly swollen in August and September by the melting snows of the Abyssinian mountains and from an earlier period the Nile is flooded by the waters of the great equatorial lakes which are increased by heavy tropical rains and sweep down the main stream, the Bahr el-Abiad, or "White Nile." After the period of inundation the river gradually subsides and shrinks. Before the Assuan barrage was constructed for the purpose of storing the surplus waters, the Nile used to sink at its lowest so low that in parts it became not only very shallow, but almost motionless.

The Low Nile period was in ancient times one of sterility as it was, and is, one of great heat. An ancient twelfth dynasty official who had to visit the Mine Land in this season reminds us in an inscription that in summer "the hills are hot the rocks brand the skin." For the fifty days known to modern Egyptians as el-Khamaseen, burning winds from the south are of frequent occurrence, the most oppressive being the "samoom" which sweeps out of the south-east with darkening clouds of sand and dust, blotting out the landscape, lashing the Nile into stormy

fury, and scumming to set the surface of the whole valley in motion. This is the period favourable for the visitations of plague and other diseases, when the vitality of the natives is reduced, when sand is chewed with food, and enters ears, nostrils and eyes. The atmosphere is hazy, the desert dazzling, the black soil on the river banks cracked and barren. Vegetation survives only where irrigation is rigorously attended to, the samoom coats every green leaf with yellow dust, and Egypt seems to be relapsing back into the wastes of the Sahara and eternal death.

Then, towards the end of May, comes welcome relief from tropical heat and discomfort, for the cool north wind, the Etesian wind of the Greeks, begins to blow from the green Mediterranean, the Great Green of the Egyptian texts. It tempers the atmosphere, it clears vegetation of accumulated dust, it seems to be the very "breath of life" to exhausted Egypt. In the songs and other writings of ancient times the north wind is welcomed and lauded for its refreshing coolness.

The next symptom of the approaching change is the appearance of the star Sirius, the Greek Sothis. On that magical June night called by modern natives Levlet en Nuktah (Night of the Drop), a "tear" from the star is supposed to fall into the Nile and cause it to rise. This star was anciently identified with the mother-goddess who nourished her human children, the welcome tear fell into the Celestial Nile beyond the horizon before the star actually appeared to human eyes.

When the river begins to rise it carries down the green scum of the equatorial waters which have long lain stagnant and slimy, and for three or four days Egypt is watered by the "Green Nile." In the Pyramid Texts Osiris is identified with the green life-giving substance in the "new water," as he is with the soil and with the vegetation which the water causes to sprout. Pyramid Text 589 reads as follows: "Horus comes! He beholds his father in thee, Greenness, in thy name of 'Water of Greenness'."

About a fortnight later the rising waters become deeply tinged by red clay until the Nile resembles a river of blood. This is the Red Nile, and the "blood" was anciently supposed to be that of the slain Osiris. The solar cult, however, had a more complex doctrinal explanation of it as a flood of blood impregnated beer which made the man slaying sun-goddess drunk and transformed her from a malignant into a beneficent deity.

By the beginning of August the Nile, overflowing its banks, inundates the narrow valley, isolating villages situated on elevated portions or protected by dykes of sand, so that, as Herodotus put it, they resemble islands in the Aegean Sea. When the "new water" has moistened the sterile sand, Egypt is transformed as if by magic. Life is renewed again, insects seem to have spontaneous generation, mice creep from cracks in the sun baked clay to escape drowning and are believed, even by

modern Egyptians, to have been created from mud by the life-giving water, grass springs up, barley-seeds lying in the dry sand sprout suddenly, the trees and shrubs put forth brilliant and scented blossoms, and the whole valley is infused with freshness, activity, and beauty. Thus, at the close of the hot season Egypt is drenched with life-giving water. From October till March is the cool part of the Egyptian year, but it is warm enough to make cereals flourish so that they may be duly ripened at the beginning of the hot season.

After the flood shrinks and the Nile subsides within its banks—that is, about the time of our winter solstice—the fields are cultivated and sown. "In no country," wrote Herodotus, "do they obtain so much produce of the field with less trouble."

The husbandman waits till the river has of its own accord spread itself over the fields and with drawn again to its bed, and then sows his plot of ground, and, after sowing, turns his swine into it—the swine tread in the corn—after which he has only to await the harvest. The swine serve him also to thrash the grain, which is then carried to the garner.

Every stage of agricultural operations in ancient Egypt is represented in the tombs, those artistic treasure houses of antiquity, those libraries of inscribed stones. We see in one Theban tomb picture an Egyptian worker of the Empire Period laboriously drawing water from the Nile to supply



A DEVICE STILL USED IN EGYPT AND THE EAST FOR WATERING THE FIELDS

Apui, a grave in the reign of Rameses II of the nineteenth dynasty, had his tomb in the valley of Deir el Medinet. On its walls is to be found an excellent representation of an irrigating system, still in use to day, worked by two slaves who beneath the shade of sycamore trees in a garden, are drawing water from a pond fringed with aquatic plants. The "shaduf" consists of a long pole with a leather bucket at one end and a counterpoise at the other, balanced on a support, on being pulled down so that the bucket is submerged, it swings back again by the help of the weight.

an irrigating channel, by means of that immemorial contrivance, the *shâdûf*, which is still used in modern Egypt. It is formed of a long pole poised on a prop and placed at a right angle to the Nile; one end of the pole is weighted by a big lump of mud, and suspended from the other is a skin bucket. The worker, seizing the rope, bends his back and dips his bucket, which is lifted full of water by the weighted pole, and then pours its contents into the canal. For thousands of years the fields of Egypt have been irrigated in this way. Artificial lakes were also formed and were automatically filled at the season of inundation. Tomb-pictures of villas show in their gardens the pools in which their owners bathed, and on which they sailed in pleasure boats to hook and spear fish, or to enjoy the cool of the evening and the moon-bright night. These pools also served to irrigate the gardens during the period of the Low Nile, and gardeners are depicted using *shâdûfs*, or carrying water-buckets suspended from shoulder-yokes, to water flowers and fruit trees round which the earth had been banked up so as to retain as much moisture as possible.

The inundation scenes in the tombs are invariably of animated character. Men are shown wading and in skiffs, rescuing cattle which were isolated on rapidly shrinking sand-banks by the surging flood. When the river bursts its banks in modern times cattle still gambol in the refreshing water, and shoals of fish are carried into the shallows; man and beast rejoice in the life-renewing flood. In the old tomb-pictures the artists have made not only the herds but the cattle smile and look active and well contented. Here and there an Egyptian squats on a bank to catch fish. But the shadow which haunts human joy is never absent, for the watchful crocodile is shown crouching near cattle and men patiently awaiting his opportunity.

The Beni Hassan tomb-pictures of the Middle Kingdom Feudal Age show the farm servants of the great lords breaking up the drenched soil after the flood has subsided. Some use the ancient A-shaped wooden hoe, with its inward curving and pointed blade and longer handle, strengthened at the centre by a twisted rope. Others use a wooden plough, drawn by two oxen; one man held the plough and another carried a goad to urge on and direct the slow-moving animals. Behind the ploughmen or men with hoes we see the sowers scattering the seeds in a steady stream.

The custom of driving swine on to the fields to tread in the grain, referred to by Herodotus, is illustrated in the tombs, but not, so far as has yet been found, in any earlier than the eighteenth dynasty, which was that of Tutankhamen. Sheep and goats, cattle and asses were, however, used

for this purpose. It may be that the pig, although an "abomination" to the Egyptians, came into general favour at seed-time, because of its habit of grubbing the soil and devouring roots and weeds as well as worms, snails, etc., for the pig is a natural scavenger. In an Old Kingdom picture three shepherds are shown driving a flock of horned sheep over a newly sown field, which must have been extremely wet, because the man in front sings a humorous song, written in hieroglyphics:

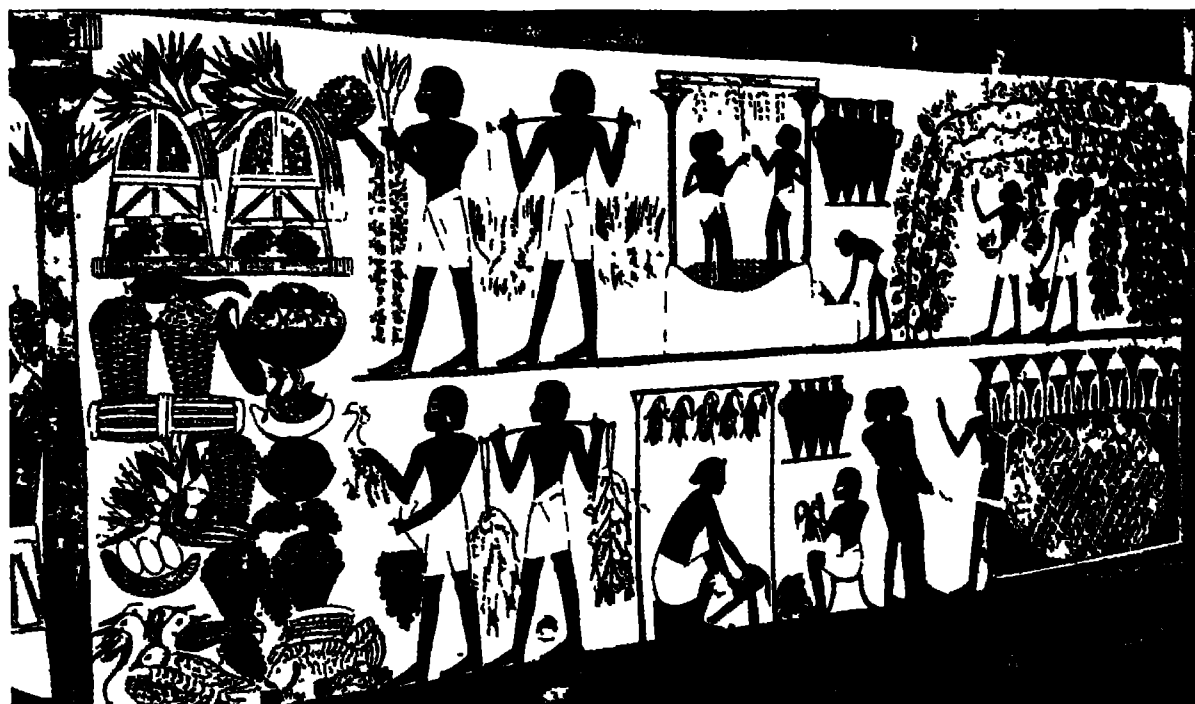
Among the fish the shepherd
Through water makes his way,
He chats with some and to the rest
He shouts the time of day.

The ancient Egyptian workers seem to have been as great talkers as are their modern descendants. It was sorrowful to them to be without company. In an old papyrus a very melancholy man bemoans his lot in solitude, and says he has no one to talk to except the fish. The ancient and very human artists, in their agricultural scenes, show gossiping couples as well as vocalists.

In the harvest scenes there are occasional interesting glimpses of everyday life. The reapers were followed by girls, who acted as gleaners like the Biblical Ruth, and in one tomb-picture a couple are depicted quarrelling, each tearing at the other's hair; another couple of girl gleaners are squatted on the ground, one being engaged in extracting a thorn from the foot of her friend. Boys waited on the harvesters with skins of water, or beer; youngsters slept in the shadows of trees, while their parents toiled in the hot sun; a song or a merry tune from a reed instrument might be provided by an accomplished youth.

The harvesters set to work in methodical manner, and on big estates they were under the direction of overseers, who carried their staffs of office, and wielded them on occasion to punish sluggards. Different methods of reaping obtained. At an early period, flint sickles with minute saw-like teeth set in wooden handles were used. Toothed copper sickles subsequently became common. Some harvesters pulled up the barley by the roots, as still do some small farmers in the uplands of Crete, and as did the natives of St. Kilda when they were visited by Martin in the seventeenth century. Those Egyptians who used the sickles cut the straw a little below the ears. The sheaves were bound so that ears protruded from both ends, and were piled up sideways on the fields. Short-cut ears were placed in nets or baskets, which were swung on a pole and carried shoulder-high by two men, or in wicker panniers placed on the backs of asses. The scribes of the great lord made careful records for his perusal of the loads of grain carried from the fields.

Open-air threshing-floors of circular shape were



VINTAGE-TIME ON THE ESTATE OF AN EGYPTIAN PRIEST

Another panel from the tomb of Nakhti shows us further scenes of husbandry and country life. Before Nakhti, sitting in his pavilion, offerings of fish and game and grapes and dates are brought; birds are being plucked and trussed and hung up to cure; a fowling net on the right has been cast in a reed brake, but perhaps the most enthralling scene of all is the vintage—grapes being gathered from an arching vine and trodden out in the wine-press, and then juice collected and stored in amphorae.

used for separating the grain from the husks. The threshing was accomplished by driving animals over the ears. Oxen were commonly used, as is shown in the tomb pictures, although Herodotus refers to swine. The Hebrews, likewise, used the large animals. "Thou shalt not muzzle the ox," the faithful were instructed, "when he treadeth out the corn" (Deuteronomy xxv. 4). The chaff was separated from the grain by workers, who winnowed with small wooden hand-shovels, tossing their contents into the air, and, no doubt, this work was done chiefly on windy days. The scribes who supervised at every turn recorded the quantities of grain carried in measures to the granary.

After the fields were reaped, and the straw which the reapers left standing had been laboriously pulled up to be used as fodder for cattle, the land was ploughed again and another crop grown with the aid of irrigation. Even as many as three separate harvests might be reaped in a single season.

In addition to a cereal the Egyptians had a papyrus harvest. The stalks were plucked in the marshes and packed into bags, which the workers carried away on their backs. From the papyrus the Egyptians made small boats, ropes, sandals, and the strong and enduring "paper" used by the scribes. Flax was widely cultivated, and from it the female workers made linen of different qualities, the best being almost as fine as silk. Even in predynastic times an excellent linen was

manufactured. Root crops, herbs, and fruit trees were likewise cultivated. The vine was grown all over the land of Egypt. According to the Greeks it is native not only to Egypt, but to Greece, Syria, etc., and even the islands of the Mediterranean. Homer refers to it in the isle of Ogygia. "About the hollow cave," he sings, "there trailed a wild rambling vine with goodly clusters" (Odyssey, v. 69). No doubt the seeds of the vine were widely distributed by migrating birds.

As has been stated, barley and millet grow wild in Egypt. But the Egyptians did not find wheat in their native land, nor did they cultivate it until they had been growing barley for several centuries. Wild wheat has been discovered on Mount Carmel, and for a time it was thought that the Egyptians obtained the seeds from that locality, but Professor Biffin, Cambridge, has found it is useless for breeding purposes, and that it has peculiarities which render it impossible to be grown so as to be suitable for harvesting. A wild wheat found in Mesopotamia becomes sterile when crossed with Carmel wheat, and is evidently not ancestral to the cultivated varieties. Dr. Thomas Cherry (late Professor of Agriculture at Melbourne) has suggested that wheat, which has not the sharp protective awn of barley, evolved on an island where it was not subjected to the attacks of land birds, and he favours Delos, which is a breeding-place for sea birds. It lies near Melos, where obsidian was

found, and Naxos, from which the Egyptians obtained emery, even as far back as predynastic times. The suggestion is that the wheat seeds were carried to Egypt by its ancient mariners. That wheat was cultivated in Egypt before it was cultivated in Mesopotamia is suggested by the fact that the Sumerians of the pre-Babylonia Age in that area called it, as Breasted has pointed out, by its Egyptian name. Irrigation was practised in Mesopotamia as in Egypt, but the Tigris and Euphrates could not, like the Nile, have revealed to early man the secrets of agriculture. These great rivers rise in flood, but do not subside, as does the Nile in Egypt, early in the cool season, but in full summer when no rain falls. No crop could come to maturity in Mesopotamia in ancient times without irrigation, while in Egypt exactly the opposite was the case; the wild barley flourished during the cool season in the naturally-irrigated area, and, having ripened, sowed itself early in the hot season. In almost rainless Egypt the seeds were preserved in the dry sand until the inundation caused them to sprout. So far as our knowledge goes, it would appear therefore that the agricultural mode of life had origin in Egypt as had the calendar, and that, therefore, the tomb-pictures, which show us the early farm workers employed in the Nile valley, are of the greatest importance not only in the history of agriculture

but of civilization itself. Before mankind discovered how to grow and store an adequate food supply, the world was thinly peopled. Hunters required large areas over which to operate, and as they could not control the movements of animals, they must have suffered from periodic famines, accompanied by heavy death-rates. By growing corn the early farmers accumulated wealth, and wealth brought leisure. When man obtained leisure he made rapid progress as an inventor. Denser communities could live in areas suitable for the agricultural mode of life than was possible when men were merely hunters. Laws became a necessity. Society had to be organized and governed, and life and property protected. As the population increased, so did its needs. The farmers provided food in abundance, but Egypt required wood, metals, etc., and, to procure these, deserts and rivers and seas had to be crossed. Progress was forced upon early man by the dictates of sheer necessity, and, as it developed, isolated communities were brought into touch with one another, with the result that the new mode of life, the new means of obtaining and storing a food supply, spread far and wide. The farmer who first sowed the seeds of wild barley in the first irrigated field sowed also the seeds of modern civilization, and inaugurated a new era with new traditions in the history of the world.



HERDS OF CATTLE FROM A CAPTURED TOWN WERE THE FRUITS OF VICTORY

The herdsman's duties were no less a care than seed time and harvest to the settled and civilized peoples of the past. Good cattle were highly prized, and the value of merchandise (and even wives) was frequently calculated at so many head of oxen. The famous bronze Balawat gates give us a glimpse of Assyrian pastoral life—pastoral, that is, but not peaceful; for the goats and sheep that are being driven across the scene are probably the spoils of war, possibly the very cause of the war itself. Indeed, we cannot doubt that silent though the monuments are on the point, economic motives for war were as strong in ancient times as to-day.

The Royal Palaces. X. Hadrian's Villa at Tivoli

By Thomas Ashby, D. Litt.

Formerly Director, British School at Rome

THE villa begun by the Emperor Hadrian, according to his biographer, on his return from his first journey to the East in A.D. 125, is situated about 15 miles to the east of Rome, just below the olive clad slopes of Tivoli. Its appearance recalls to our minds very different associations from those which the word brings up in England, and even the great villas of the Renaissance must give place to its vast extent. The tourist who once ignorantly spoke of it as Hadrian's village was not so far wrong as he seemed to be. Situated on a plateau between two valleys, both of them bounded by cliffs of volcanic rock—the characteristic red tufa of the Campagna Romana—its ruins occupy an extent of about 600 yards by 300 though its gardens no doubt extended a good deal farther than the ruins.

It lies below the limestone hills, the first outlying spurs of the Apennines, through which the Anio forces its way, and is dominated entirely by Tivoli, the ancient city of Tibur, placed there to guard the pass into the mountains. The site does not seem at first to be an attractive one, and its unhealthiness in medieval and modern times has made the choice of it appear still more strange. But at a greater elevation sufficient space for these immense buildings and the gardens which surrounded them would not have been available, as we see in the villas nearer to Tivoli itself, most of which once occupied comparatively narrow terraces on the hillside, sometimes two or three one above the other. And the existence of many other smaller country houses in the neighbourhood proves that the emperor was not alone in his choice. In fact, the whole Campagna from the hills to Rome must once have been a succession of country residences, large and small, with parks and gardens between them, presenting a very different aspect from the desolate appearance which until the last few years rendered its unhealthiness and its tragic loneliness proverbial.

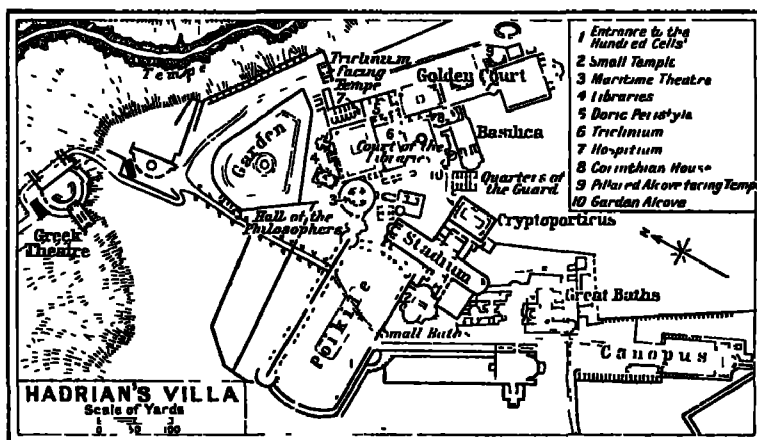
Very little is known of the history of the villa. Its construction

began in A.D. 125 and went on during the next ten years, during most of which time Hadrian was absent from Rome. On his return in 135 he retired there and continued to enlarge the villa, decorating it with works of art, until in 138 he was seized by the illness which caused his death. This, however, occurred at Baiae, whither he had caused himself to be removed.

It is clear from the discovery of some imperial busts, the latest of which represents Heliogabalus (A.D. 218-222), that the villa continued to be inhabited by Hadrian's successors until that date at least, and there are indeed traces of work done there as late as the time of Diocletian, until when it was still known as the Palace of Hadrian. But after this we know nothing of its history for over a thousand years that Totila took up his quarters there in A.D. 544 is a mere conjecture, unsupported by any evidence.

Earthquakes no doubt began the work of destruction, and then it shared in the general desolation of the Campagna. It is noteworthy that its works of art were not removed elsewhere in ancient time, and that its ruins were not made use of in the Middle Ages for habitation, but only as a quarry for building material. There are indubitable traces of the use of its marble decorations for burning into lime—fate of so much ancient marble.

Pope Pius II. visited it in 1461 and gives an account of it which shows that it was then in much the same condition as now. "Age has





STAUNCH GIRDLING WALL AND IONIC COLUMNS OF THE "MARITIME THEATRE

As is obvious in many of the prominent edifices that go to make up the wonderful complex known as Hadrian's Villa, the Emperor sought to reproduce in this, his country residence, the buildings and landscape effects by which he had been most impressed in the course of his foreign travels. Expert authorities are much at variance on the question of what this edifice might represent. Nibby affirms that it was a swimming-bath, and for that reason it is sometimes called the "Nataforium"; Professor Lanciani's opinion is that it was a place of seclusion where Hadrian, having closed the bridges over the canal that surrounded it, might retire to prosecute his studies; Dr. Ashby's theory that it was an aviary seems the most acceptable.

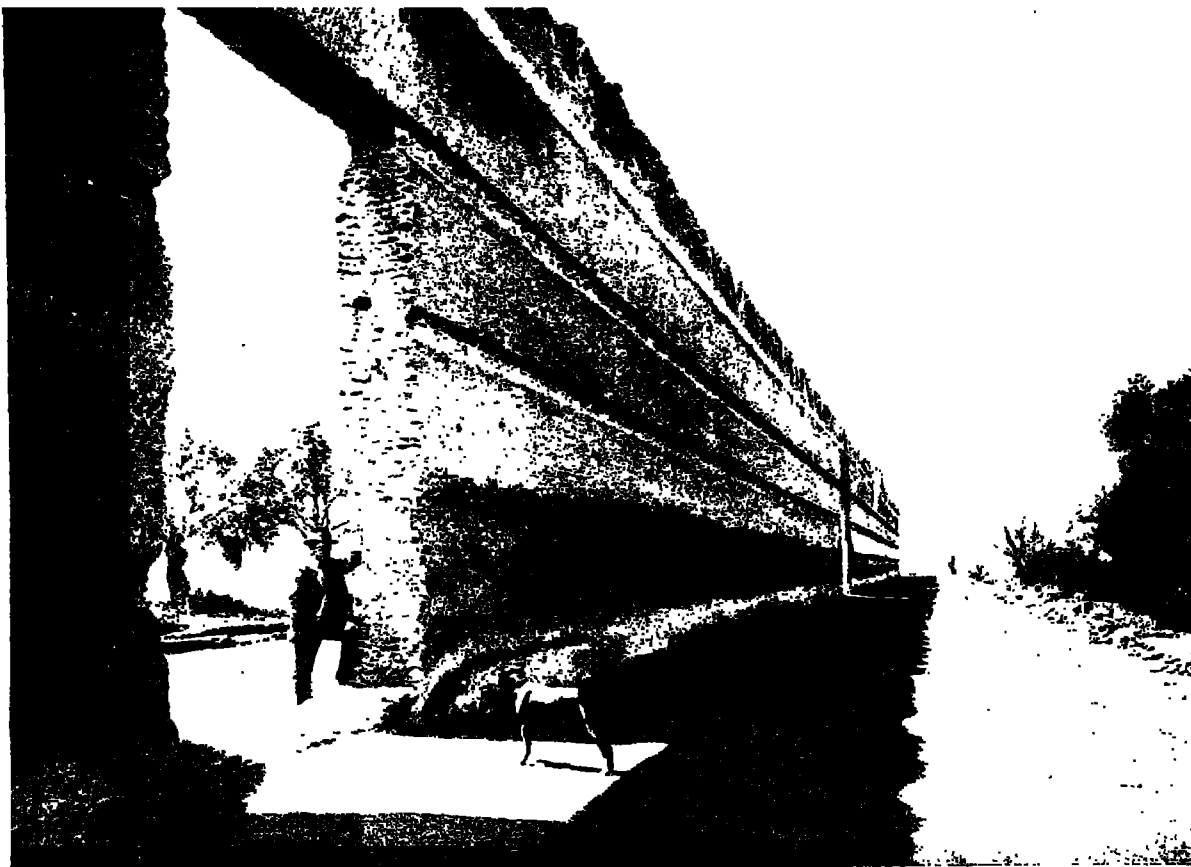
Photo by Anderson



GRASS-CARPETED AND INVADDED NOW BY THORNS AND BRAMBLES: THE GREAT BATHS

South of the Small Baths of Hadrian's Villa and just north of the extremity of Canopus rise these stately roofs. In the height of their splendour these baths were decorated by particularly fine stucco work. As may be seen from the photograph, the side walls are partly executed in the well-known "opus reticulatum," a characteristic type of Roman masonry in which lozenge-shaped bricks are used instead of the common type. The heating arrangements in these baths are in a wonderful state of preservation.

Photo by Allan



BEAUTIFUL WALL RAISED BY ROMAN BRICKLAYERS

Undoubtedly remarkable in every building in the group of Hadrian's Villa is the fact that such unsurpassed beauty should be combined with strength and never lose by the fusion. One is particularly impressed by these mighty walls rising so high and towering in strength yet never devoid of grace—walls whose proportions may be determined by comparison with the figures of the man and his dog. What amount of time and how much labour went into their construction can be but faintly imagined.

destroyed the form of everything; ivy now clothes the walls that were covered with tapestries and cloth of gold; thorns and brambles have grown where purple clad tribunes sat, and snakes dwell in queen's chambers; so unstable is the nature of all things mortal."

With the Renaissance search began to be made for the rich series of art treasures which it contained. Some went to enrich the splendid villa, now itself in its decay one of the chief attractions of Tivoli, which Cardinal Ippolito d'Este began in 1551; though most of its decoration came from his collection formed in Rome. It was indeed the fashion to transport ancient sculptures from one house to another for decorative purposes, just as one might do with a particularly choice piece of furniture nowadays.

But the riches of the villa were anything but exhausted and excavations went on continually. Two beautiful candelabra were found in 1630 and works of art came to light at frequent intervals. Some of the best finds were made in the first half of the 18th century, including the famous mosaic

of the doves and several portraits of Antinous, Hadrian's young favourite, one of the finest of which is in the Villa Albani at Rome.

Later on in the century (1769 and onwards) the Scotsman, Gavin Hamilton, made Hadrian's Villa one of the chief centres of his activity, which was unfortunately not scientific but confined to the recovery of ancient sculptures which he could dispose of to advantage to various British collectors; so that in this, as in other cases, he has left no proper record of the circumstances under which they were found. Here, however, the confusion was not due to Hamilton. According to his own account, which is confirmed by that of the engraver, Francesco Piranesi (brother of the more celebrated Giovanni Battista, the author of the famous "Vedute di Roma"), he was informed by his sculptor of the existence of numerous fragments round the lake called Pantanello, which he proceeded to have drained. This was an enterprise of some difficulty which had deterred previous searchers, but he carried it through with successful results. The marsh was found to be full of a vast



STATELY PLEASURE-DOME AND A SUITE OF GUEST CHAMBERS

Lofty and spacious, with reticulated walls formerly faced with marble, the great hall (upper photograph), sometimes called the "Hall of the Philosophers" and sometimes the "Temple of the Stoics," stands at the north-eastern extremity of the Poikile. On the north side of the Court of the Library is the "Hospitium" shown below. This complex consists of a central saloon with five chambers opening off it on both sides, each having three alcoves capable of containing a couch. The floor of the central saloon, as well as in the chambers themselves, is of beautiful mosaic in black and white, still in perfect preservation.

Photos by Allnari (top) and Dr. Ashby



A PAGAN DEITY FROM HADRIAN'S VILLA

Hadrian's Villa now denuded of its pristine glory although very impressive in its picturesque desolation, was once replete with every imaginable relic that the great Emperor could lavish on it. This can be seen in the palace in the villa is now one of the treasures of the Capitoline Museum at Rome.

Photo by Cecil F. R. A.

number of trees intermixed with statues, etc., all of which have shared the same fate. They were probably treated in this way by over-zealous Christian iconoclasts as having once formed part of some wood or grove sacred to a pagan deity.

The sculptures which he discovered went in part to the Vatican, but in the main to the Earl of Shelburne, to join his collection at Lansdowne House. Others were dispersed among various collections. The total number of works of art discovered in the villa as far as we know is well over 250, but they are scattered all over the world in numerous public and private collections in Rome, London, Berlin, Dresden, Stockholm, Petrograd. The excavations have by no means exhausted all the possibilities of discovery, and now that the greater part of the site is in the possession of the Italian Government, what is found in future will remain in its possession.

The villa, we are told, contained imitations of the famous buildings which Hadrian (who was one

of the most travelled of Roman emperors) had seen and admired all over the known world; Hamilton mentions some of them, and attempts have been made by the antiquaries, and above all by Pirro Ligorio to whom most of the traditional appellations are due, to identify the ruins with the list of names given us—not always with success, or even with probability, for, as we shall see in the sequel, the only certain identification is that of the Canopus.

There is, however, a key to what seems a chaos of miscellaneous ruins jostling one another in picturesque confusion, and that is in the orientation of the various parts of the villa. If we follow the archaeologists who take this as their guiding principle, we shall find that the whole falls naturally (leaving aside a number of outlying detached buildings such as the two theatres and the connecting links between the various portions) into four main divisions, each centring round a large open space or courtyard: the group of the Poikile, that of the main palace, that of the Canopus, and that of the "Academy," really a smaller palace.

Taking these in order, we first come to the so-called Poikile, now approached by a beautiful avenue of cypresses, which derives its modern name from having been identified with the "Stoa Poikile" (the vari-coloured portico) at Athens, so-called from the paintings with which its walls were decorated. Whether the name be correct or no, we certainly have here a huge garden of the formal type, once surrounded by a peristyle. Its shape is imitated from that of the hippodrome or stadium, a favourite one among Roman gardens. At its north-west corner is the so-called "Hall of the Philosophers."

The north wall is still standing to a considerable height, and was detached from the rest with a space at each end through which a chariot could pass. It was so arranged that one could walk or drive on one side or the other of it in the shade or the sun, according to the season, at any hour of the day. From an inscription we learn that it bore the name of "Portus Triumphalis" (which it took from the building of that name in Rome), and that seven times its length was just over a mile. This was the length of the Roman "constitutional," and evidently the ancients liked to know the precise amount of ground they were covering, for other inscriptions of the kind have been found both in Rome and at Pompeii.

The central space was no doubt occupied by a formal garden with box and laurel hedges cut into fantastic shapes. We know them not only from a famous letter of Pliny the younger, but from the frescoes (and, in less degree, from the gardens themselves) of Pompeii, and from some of the few formal gardens of the Renaissance

villas of Rome and its neighbourhood which have escaped the caprice of altering tastes.

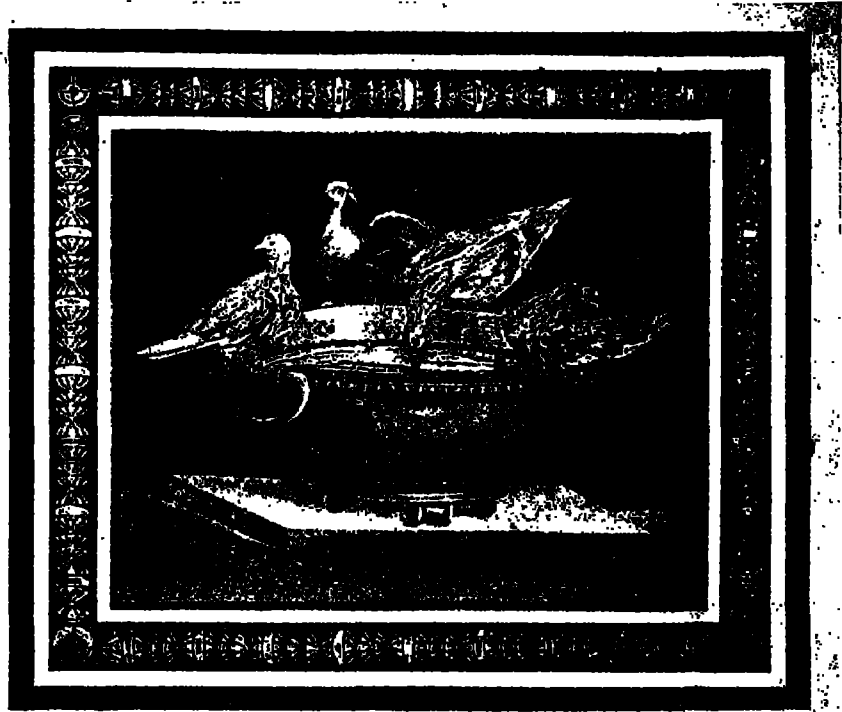
In the centre of it is a large open tank of the same shape as the garden itself. From the western extremity a fine view of the desolate Campagna and of Rome itself—especially towards sunset—is to be had. This part of the garden is built out on an artificial terrace, and the arched sub-structures which support the main embanking wall were used to lodge the Imperial Guard, or slaves. The so-called "Barracks of the Vigiles" in another part of the villa should rather be considered to have been a storehouse, not only for food, but for furniture and other objects of occasional use.

The remainder of the group contains a very finely decorated room, which was probably used for a dining room in summer, unfortunately much devastated by searchers after building material; it communicates with the so-called "stadium," perhaps simply another garden of that shape, which was a favourite one with the ancients. Beyond it on the east is a large courtyard with an open tank in the centre; under the colonnaded walk surrounding it is an underground passage, or cryptoporticus, to provide shelter from the rain or even from the Italian sun.

To the north-east of the first group lies the second, the Imperial Palace proper, which is grouped round four main courtyards of varying size. The first of these is known, quite wrongly, as the "Courtyard of the Libraries," because the Greek and Latin libraries have been thought to be recognizable in some lofty buildings of irregular plan and uncertain use on one side of it. On another is the so-called "Maritime Theatre" which is probably not, as is often believed, the reproduction of an island with a temple upon it which Hadrian had seen in his travels, but simply an aviary. Its chief parts correspond with the description given by Varro, and a Renaissance reconstruction according to his description (the

work of Pirro Ligorio—see above) shows this clearly. Originally it was approached by a swing bridge which was later renewed by a fixed one.

Between this building and the so-called Poikile is the great hall, wrongly called the "Hall of the Philosophers," which, from its orientation, belongs in reality to the first group. Close by is a set



MASTERPIECE OF AN ANCIENT ARTIST

Adorning a room in the Capitoline Museum, this exquisite mosaic was one of the numberless magnificent decorations with which the Emperor Hadrian garnished the halls of his villa. Consider the delicate execution of the disturbed water of the fountain basin and the beautifully natural birds with their variegated plumage perched on its rim.

Photo by Cesare Faraglia

of baths, the only portion of the villa which has been excavated in the last few years. They have their arrangements for heating still remarkably well preserved.

At the opposite end of the courtyard is a building known as the "Hospitium," or guests' quarters, perhaps correctly, for here we have a number of small chambers, five on each side opening on to a central hall, each containing three niches for a bed. The mosaic pavements of the floors are exceptionally well preserved. Close by is a terrace overlooking the valley on the north-east which is generally identified with the Vale of Tempe, now planted with beautiful trees. Farther on to the south-east are other parts of the palace, specially interesting nowadays to the student of architecture, for many problems relating to the construction of the dome find here their first



THE BARBERINI CANDELABRA FROM HADRIAN'S VILLA

In the Gallery of Statues in the Pio Clementine Museum of the Vatican are these two ancient Roman candelabra, the largest and finest in existence. Each has on the pedestal three reliefs, the one on the left above having Mars (shown in photograph), Minerva and Venus, and the one on the right Juno, Jupiter (shown in photograph) and Mercury. They have been called "Barberini" from the family name of Pope Urbanus VIII whose excavations at Tivoli in 1630, directed by Simone Bugarini, brought them among a host of other precious objects to the light of day.

Photos by Allinari



THE SO-CALLED "PRAETORIUM" AND A VIEW IN CANOPUS

Hadrian's reign may be fitly described as the happiest period in the annals of Rome; he fostered the arts and broadened his mind by travel abroad; his period was one of peace. Struck with the beauty of Canopus, a town beside the Nile, he essayed a reproduction of it in his villa, excavating an artificial valley and adorning it with a temple (lower photograph) at its southern extremity. The upper photograph shows the substructures at the north end of Canopus, called by some the "Praetorium," but certainly never used to house the Praetorian Guards, for the cells would seem always to have been damp and dark.

Photos by Vassari



VAULTED HALLS OF HADRIAN'S COUNTRY SEAT

For many hundreds of years excavations have gone on at Hadrian's Villa ; its wealth of decoration, plastic and mosaic, has been carried off to embellish houses and museums all over the world. That part of the grounds which is shown in the upper photograph being particularly rich in treasure has been called the "Golden Court" ; the vaulted ruin shown in the background is the so-called "Temple of Castor." Of staunch brick, reticulated in the walls, and graceful with its beautifully arched roof formerly adorned with decorations in stucco is the large Central Hall of the Great Baths, in the lower photograph.

Photos by Anderson (top) and Alinari

solution, and we may trace here the origin of some of the most important features in the great buildings of the period of Constantine.

The ordinary visitor, if he is lucky enough to be there in the late spring when there is no fear of frost or rain, will see some of the beautiful mosaic pavements with which the whole villa was once decorated, but he will have to trust to his imagination for the rest. For the concrete walls, faced in part with brick-work, in part with small blocks of volcanic stone, grey or brown, have lost the veneer of marble, painted plaster or stucco with which they were once entirely covered both inside and out. The columns that supported the roof of the peristyles, or decorated the interior of once splendid halls, have gone, and their place is only in some measure supplied by the grey-green olives which grow in most of the open spaces of the villa. In the spring, too, the brilliant colours of the mosaics are almost surpassed by the wild violets and purple anemones for which Hadrian's villa is famous.

The third group lies farther to the south, and consists of two separate groups of baths—the smaller of very elaborate plan, with rooms of various shapes cleverly fitted in, paved with many-coloured marbles. The larger is remarkable for having in one of its halls an exceptionally fine piece of ceiling decoration in stucco. The main feature of the group, however, is the Canopus, which took its name from a city fifteen miles from Alexandria on a canal branching off from the Nile, celebrated for a temple of Serapis. Hadrian constructed a reproduction of the canal and of the temple, excavating an artificial valley some 200 yards long, with a great niche at the end of it decorated with fountains. The works of art which adorned it were a mixture of pure Egyptian art and of imitations of the Roman period, and a considerable number of them have been found at different times. It is uncertain whether the fine statue of Antinous in Egyptian

costume was found here or elsewhere in the villa. Close by is the fourth and last group—the so-called "Academy," which is in reality simply a smaller palace arranged round a courtyard. It was decorated with splendid works—the mosaic of the doves, the two Centaurs, the red marble Faun, all now in the Capitoline Museum.

Other more distant buildings need not now detain us. Some of them, though built at the same time as the villa, and included in its area by the older topographers, certainly form no integral part of it and probably belonged to other owners.

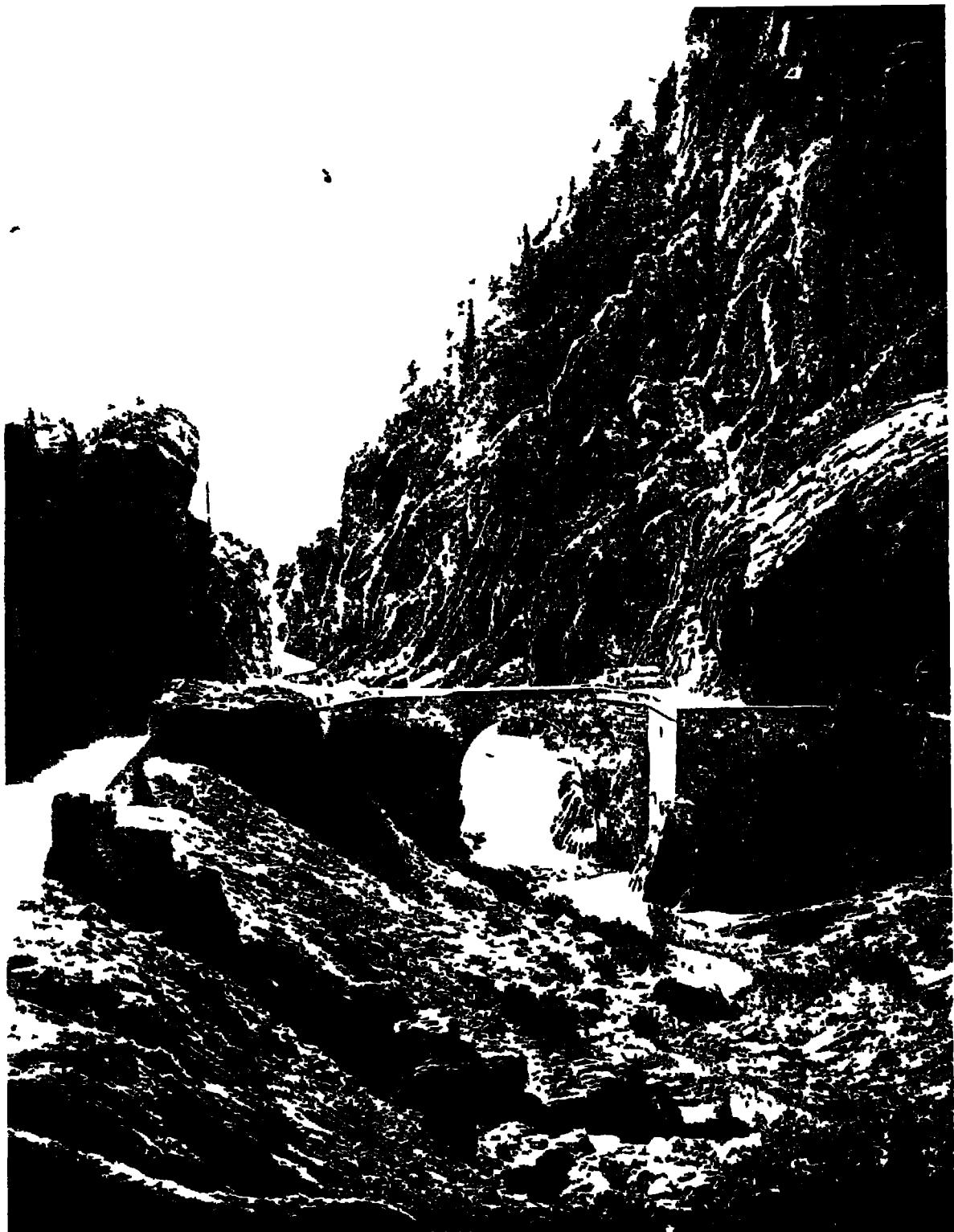
The hasty survey which we have taken of Hadrian's Villa may have served to give us some idea of one of the most splendid of the Imperial residences of ancient Rome. It has, as we have seen, surprisingly little history and both for this reason and owing to the removal of the works of art with which it was decorated and the spoliation of much even of its architectural adornments, we may find it difficult to form a mental picture of what it was in the days of its splendour, short as they were.

Hadrian's restless spirit can not have long found there the repose which it sought, and yet with no other individual can we connect it except with his favourite, the handsome youth Antinous whose features are familiar to us from the many representations of him which have been found here. His death by drowning in the Nile in A.D. 130 moved Hadrian to a woman's tears, the more so perhaps, that though it may have been accidental, it was, according to another account, an act of sacrifice to avert some calamity that threatened Hadrian himself.

But the villa has no other historical associations, and it is perhaps the picturesque that will live longest in the memory, the beauty of its cypress avenues and olive groves, and of the grey and brown walls among them; and at sunset the words of the first humanist pope come back to us once more: "*adeo fluxa est mortalium natura rerum*"—"so unstable is the nature of all things mortal."



THE INSPIRATION OF EGYPT
Thought by some to represent the Egyptian Apollo, this statue, once a gem of Hadrian's pleasure by Tempe, now stands in the Vatican. More probably it is the Emperor's beloved protégé, Antinous.
Photo by Ahman



NO LAND SO WILD THAT IT DAUNTED THE PIONEERS OF ROME

The wild scenery in which a Roman bridge is set is to be found in Algeria at a spot called El Kantara which is simply Arabic for "The Bridge." It bears the old southern road from Lambessa across a narrow gorge amid grand and barren hills and although restoration rendered necessary in 1862 took no pains to preserve its Roman character it still owes its old strength its stubborn utility to the thorough workmanship of builders who learnt their craft from the Mistress of the West.

By permission of Thomas Cook & Sons

The Master Builders. X.

Triumphs of the Roman Bridge Builders

By O. G. S. Crawford

Author of "Man and his Past"

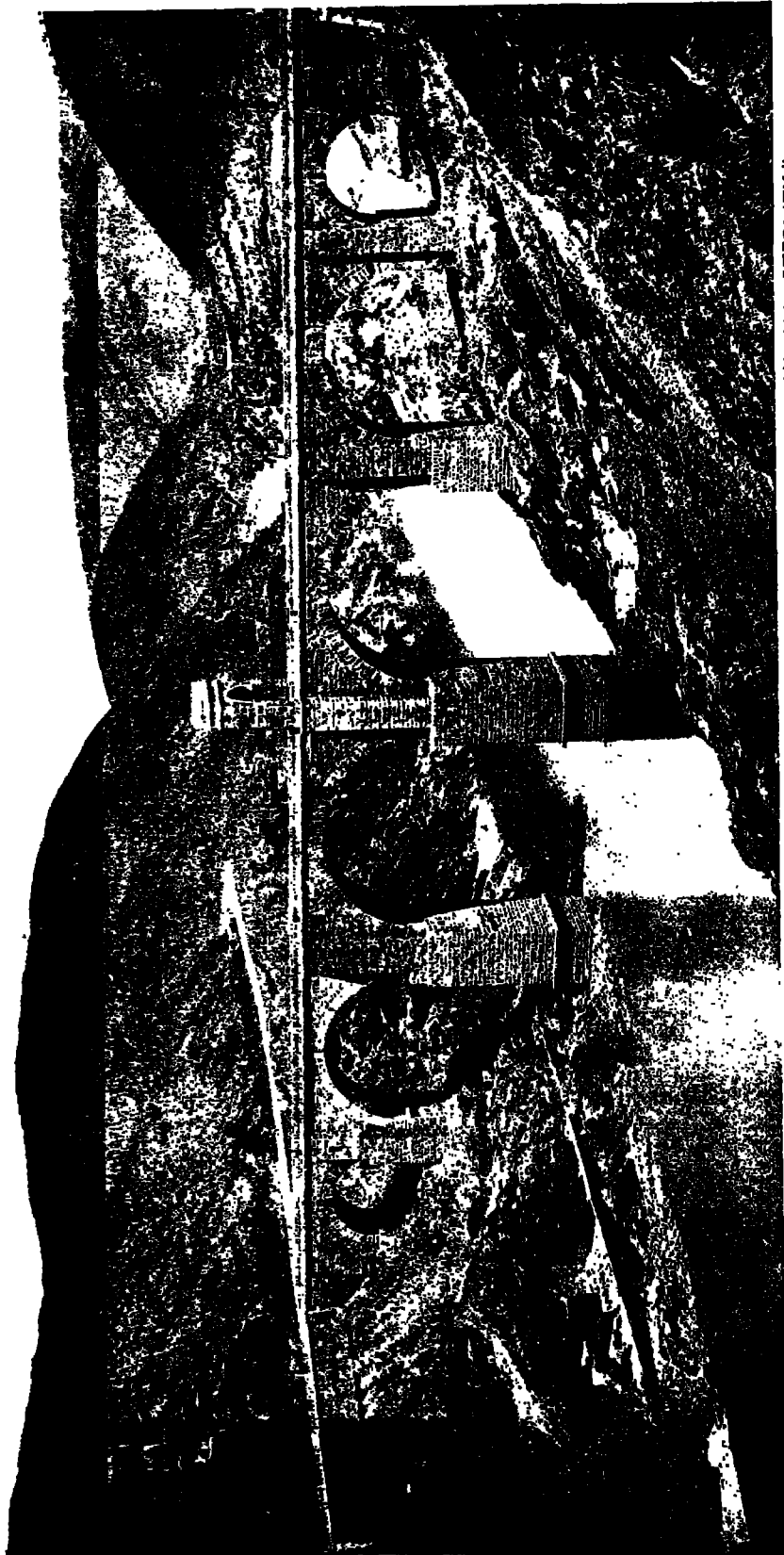
THE history of bridge building is an ironical commentary upon the inconsistency of human nature; for those who have laboured for months and years in building a fine bridge have often destroyed it again in as many hours. Military necessity is generally the cause of both acts. To hold a conquered country good roads are essential even to-day; and good roads involve good bridges. We learnt the importance of bridge-heads during the Great War. But bridges near a frontier may have to be destroyed if that frontier is "rectified" by the people on the other side. In the Middle Ages, when every man's house was necessarily also his castle and his own frontier often lay at his doors, this inherent defect was remedied by making drawbridges which could be lifted up if need be, the castle or house being then securely islanded within its moat. But such means were impossible when great rivers had to be crossed. Consequently we find one Roman Emperor constructing a magnificent bridge across the Danube frontier, and his successor destroying it for fear of the barbarians beyond.

There is a curious, but perhaps accidental, resemblance between the evolution of bridge building in England and Italy. In prehistoric Italy, as so often in medieval England, people lived for safety on artificial islands. In Italy these islands (called "terramare") were made during the Bronze Age in the well watered plains of Lombardy. They consisted of a rectilinear enclosure surrounded by ditches fed with water from a river. The key to the site was the bridge; if the enemy could capture it, all was lost. We need not wonder, then, that bridges came to be associated with many religious observances, and that a halo of tradition gathered round them. The prehistoric "terramare" folk must have watched many desperate encounters between their own defenders and the enemy at their gates. A bridge-head battle at Rome in rather later times has been immortalised in Macaulay's lay of Horatius who "kept the bridge in the brave days of old." The bridge was a wooden one, the Pons

Sublicius; and Horatius with two intrepid comrades held it against Lars Porsena of Clusium while his fellow-citizens were desperately hacking away its timbers. He succeeded, swam back to Rome across the Tiber with all his armour on, cheered by both sides, and was rewarded by a gift of land and a statue erected in his honour. No trace of bridge or statue now survives.

Rome itself was rich in bridges. The Pons Fabricius may still be seen; it united Rome itself to the picturesque Tiber Island and is now called the Ponte dei Quattro Capi, from the four-faced stone heads upon the parapet. It was built just before the beginning of the present era, doubtless replacing a wooden predecessor. In 21 B.C. it was renovated and the inscription recording this fact may still be read upon it with the names of the two consuls responsible for its restoration. Its continuation, leading from the Tiber Island to the right or western bank of the river, was called the Pons Cestius or Pons Gratiani, and is now the Ponte San Bartolomeo. It appears to have been built by L. Cestius in 46 B.C., just after Caesar's invasion of Britain. In A.D. 370 it was renovated by the Emperor Gratianus. Between the years 1888 and 1892 it was destroyed and a new bridge built in its place. Originally it consisted of a large central arch with a smaller one on each side and its method of construction was similar to that of the Pons Fabricius. Recent discoveries have brought to light some of the huge blocks with which it was built; the iron clamps with which they were bound together can be seen and look remarkably modern. The Pons Salarius crossed the Anio, a tributary of the Tiber, and lay upon the Via Salaria, one of the many famous roads which led to Rome.

But it was on the frontiers of the Roman Empire that two of the most famous feats of Roman engineering were constructed. They crossed the greatest rivers in Europe, the Danube and the Rhine, and neither of them had a long life. The Danube bridge was built by the Emperor Trajan in A.D. 104-5, in the interval between the first and



"THIS BRIDGE GREAT LACER BUILT WITH WONDROUS ART TO STAND UNMOVED THROUGH ALL ETERNITY"
 Because it has been many times restored and repaired but never really altered in character or material, the wonderful Roman bridge over the Tagus in the Spanish province of Cáceres remains the most perfect in existence; even the original pavement is intact. Built of great un-mortared blocks, it is 617 feet long and consists of six arches of which the two central ones have a span of about 100 feet and are more than 180 feet above the river; over the central pier is a triumphal arch. The town near by owes its name to it, for Alcántara is but slightly altered from the Arabic El Kantara. From an inscription on a neighbouring temple ruin we learn the name of the architect: "Pontem perpetui mansurum in saecula mundi Fecit divina nobilis arte Lacer".—"This bridge great Lacer built with wondrous art to stand unmoved through all eternity." The temple was dedicated to Trajan, so Galus Julius Lacer must have laboured at the end of the first century A.D.



BRIDGE IN ROME THAT CAESAR MUST HAVE TROD

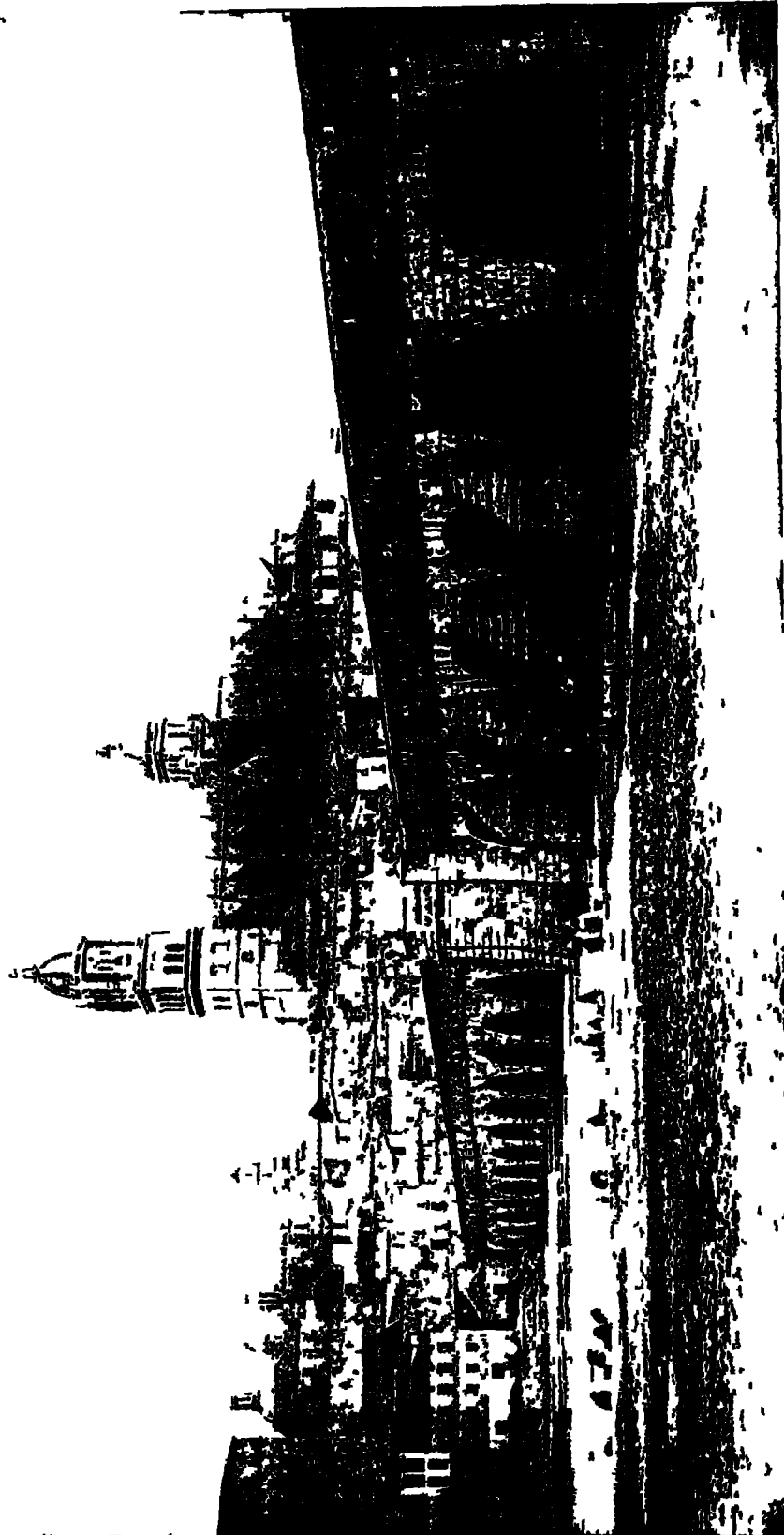
Linking the left bank of the Tiber with the little island that lies just west of the old Forum Romanum is the Ponte de Quattro Capi, still solid and serviceable in spite of the centuries that have settled thick upon it. For with but little alteration it is the same bridge that was built about 62 B.C., renovated in 21 B.C., and known as the Pons Fabricius. With the exception of the mighty Alcántara bridge in Spain it is probably the best preserved Roman bridge in existence.

Photo by Allinari

second Dacian wars. It stood below Orsova and the Iron Gates, one of the great strategic sites of Europe where the Danube pierces the narrow mountain ridge that separates the great plains of Hungary from those of Rumania, here, before the Great War, converged the frontiers of four nations—Hungary, Serbia, Rumania and Bulgaria. A whole army worked for a year to build it. The architect, Apollodorus, also constructed the Column of Trajan upon which he has left a bas-relief sculpture of the bridge. We also know what it was like from numerous coins bearing representations of it and from descriptions by the architect himself, quoted by Procopius and by Dio Cassius.

The greatest difficulty encountered was in laying the foundations for the piers in the bed of the river. It was of course impossible to deflect the river temporarily—a masterful course occasionally adopted. Twenty piles were driven in. The bridge

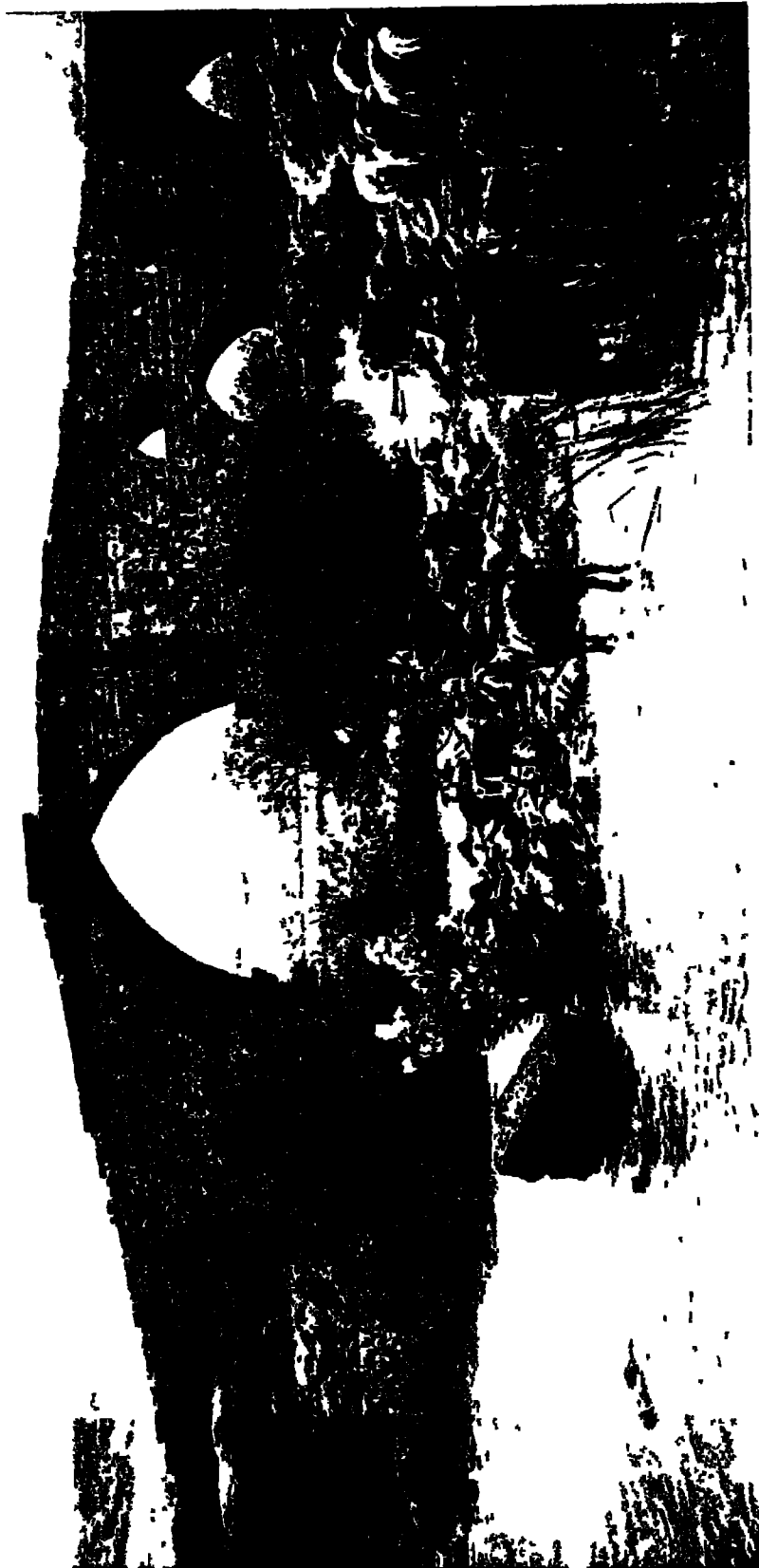
was about 1,200 yards long and between 14 and 20 yards wide, each end was fortified. The arches had a span of between 37 and 40 yards. The arches and parapet shown on Trajan's Column are of wood, but possibly this representation shows it before it was quite finished. Some authorities have supposed that it was intended to complete it throughout in stone replacing the wooden parts by stonework on similar lines of construction. However this may be, its life was short. Hadrian removed the platform of the bridge in case it should be used by the barbarians outside the pale. It was temporarily restored by Constantine in A.D. 328 and some of the pillars are still standing. The architect's design has lasted longer than the great work itself. It may be seen upon that Column of Trajan which stands in Rome near the great tramway centre so familiar to all visitors—a strange relic of the former greatness of Rome and an invaluable store of knowledge for the historian.



TIME-DEFYING ARCHES OF A ROMAN BRIDGE IN THE SPANISH TOWN OF SALAMANCA

As early as 222 B.C. we hear of an ancient town, Salmantica, in the centre of the Spanish peninsula; it was captured by Hannibal and subsequently passed to Rome. To-day that town is the old university seat of Salamanca in the western province of Spain of the same name, and among its other memorials of the past it can boast a fine bridge of twenty six arches more than half of which—fifteen to be precise—are of Roman work, while the remainder are sixteenth century. The total length of the bridge is 500 feet, and the river which it spans is the Tago. This photograph is taken from the left bank of the river looking towards the New Cathedral—"new" although begun in the year 1509

Photo by Mr. James Jackson by courtesy of the Royal Geographical Society



CARRYING A ROAD IN THE LUNG OF THE ROMAN EMPIRE JNR II-VI/1911H

At the same time, the structure is a masterpiece of engineering, and it is a pity that it is not better known. The bridge is a masterpiece of engineering, and it is a pity that it is not better known. The bridge is a masterpiece of engineering, and it is a pity that it is not better known.

The Rhine bridge was built by Caesar, but it was only temporary. His motives for crossing the Rhine at all are interesting, he himself gives many reasons. One of them was to show that he could do so and thereby enhance his prestige, already great, amongst the Germans on the other side. He wished to show that if the Germans regarded the Rhine as the frontier of the Roman Empire, they must stop raiding the tribes living to the south-west of that river. Accordingly he determined to cross, and as he considered it undignified to cross in boats—he says so himself—he had a bridge made. He began by joining together two piles each a foot and a half thick, sharpened at the end and proportioned in length to the depth of the river. These were driven into the bottom with rams but at an angle and not perpendicular. Opposite these, forty feet lower down, two others were driven in, slanting upstream. Beams were laid horizontally across these. This was an ingenious device, for the force of the

current against the upstream piles merely resulted in driving the other piles more firmly into the bed of the river. Upon the horizontal beams others were laid parallel to the direction of the current and covered with lathes and hurdles to form the roadway. In addition piles were driven obliquely into the river below the bridge, to buttress it against the force of the current. Similar piles were also driven in above, to take the impact of any trees or boats that the barbarians might float down the river to destroy the bridge. The whole work was finished within ten days and the army crossed. Caesar left a strong force at each end to protect it, and marched forward into the territory beyond. Needless to say the bridge has now disappeared and even its exact site is unknown, but a representation appears on Trajan's Column.

The Rhine was crossed by two other Roman bridges, both of which have disappeared. One at Mainz was constructed in the early days of the Empire—probably in the reign of



WORK OF THE BRIDGE BUILDERS IN THE CRADLE OF THEIR CRAFT

In spite of serious damage done to it towards the end of the nineteenth century, and the rebuilding thereby rendered necessary, there is still much of the original masonry of the Pons Cestius in the modern Ponte San Bartolomeo in Rome. It is the continuation of the Pons Fabricius joining the island to the right bank of the Tiber. Built about 16 B.C. by L. Cestius it was renovated in A.D. 370 by the Emperor Gratianus and thenceforward called the Pons Gratiani. Still well preserved too is the Pons Aemilius (Ponte Sant'Antonio) built by Hadrian in A.D. 134 and shown in page 523 of this work.

Edw. by Alinari



SPANNING A ROCKY TORRENT IN MAJORCA BRIDGE AT POLLENSA

At Pollensa on the north east coast of the island of Majorca in the Mediterranean is found this monument raised by the Roman builders. The ancient Pollentia was the first colony founded in Majorca and the site abounds in remains. Details of construction are interesting in this bridge: the pier is not built in the middle of the river but where its foundations have a firm bed, and the arches are therefore unequal in span; above the pier is a small arch that takes away from the enormous weight of the masonry at the junction of the larger arches: the material used is large stones of polished lava in the acings of the arches.

Photo by Mr. F. Stanbury by courtesy of the Royal Geographical Society.

Augustus It was frequently destroyed and rebuilt. A view of it is given on a leaden facsimile of a gold medal now in the Cabinet of Medals at Paris bearing the heads of Diocletian and Maximian: it seems to have been an imposing affair with a huge fortress at one end. The other bridge was at Cologne and was made by Constantine about A.D. 308. Vestiges of wooden piles were found in 1864 at Coblenz (Confluentia). Here, as the Roman name implies, the Moselle joined the Rhine: and it was over the former river that the bridge was made: probably in the fifth century A.D. It is significant of the unalterable laws of geography that these three bridge heads should have been selected as the headquarters of the principal victorious armies when, 1600 years later, it became necessary to restrain Teutonic enterprise.

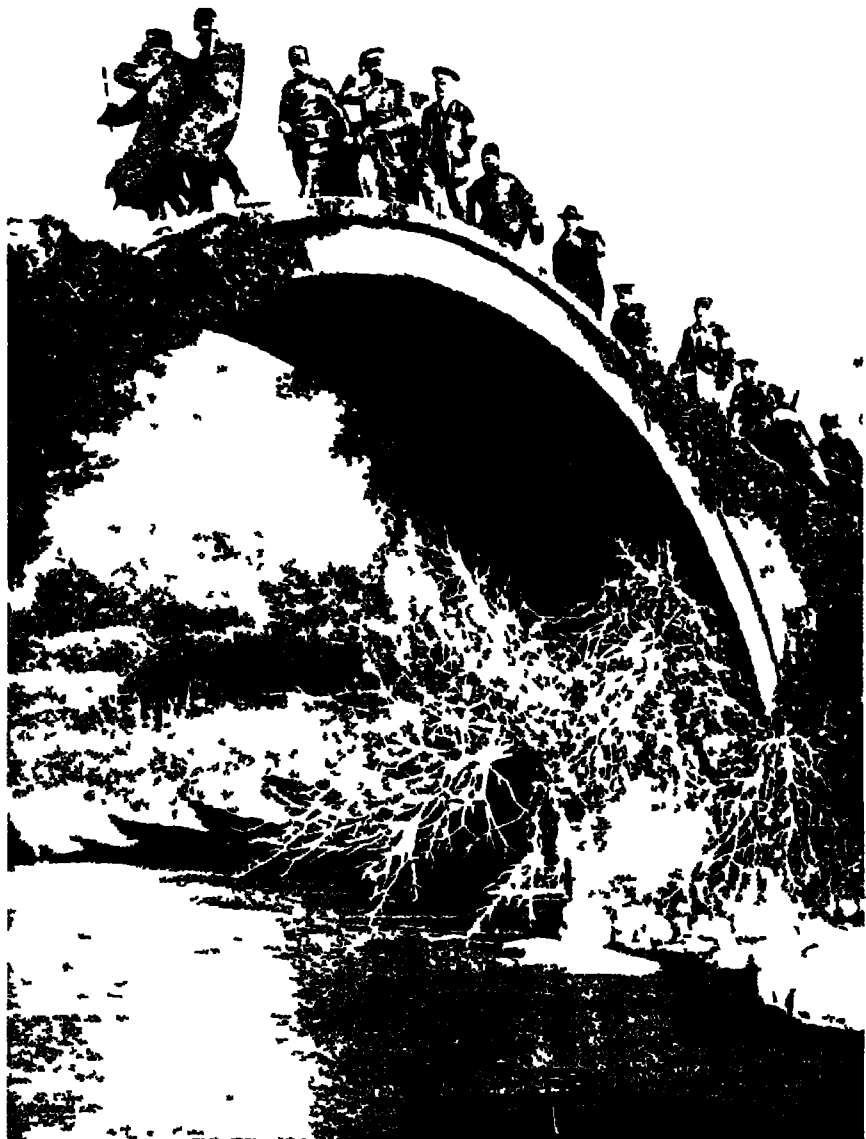
One of the largest single-arched bridges known is that over the River Elaver (now Alber) in France. It was called Pons Veteris Brevatis, and stood near the city of Brioude (Brivas) in Auvergne. The pillars stand on two rocks 195 feet apart and the arch is

84 feet above the river. The name is interesting. An old glossary of A.D. 449 gives the Latin translation of certain Gaulish words: "briv" is translated "ponte," and "doro" as "ostio." Now these two words, "briv" (bridge) and "doro" (gate), enter into at least two place names in England. The Roman name of Rochester was Durobrivae and another place of the same name stood close to Peterborough. The prefix "duro" appears almost to have meant "town," though strictly it means "gate," and is connected with the Latin "forum" and English "door," and the suffix "briv" implies that the river there was bridged. It is known that a Roman bridge must have existed at Rochester on the site of the present bridge, for here Watling Street crossed the Medway on its course from Canterbury (Durovernum) by Durolevum (near Faversham) to London. "Briv" is etymologically connected with our word "bridge"; it appears in France in the name Briva Isare (Bridge of Isara), whose modern name Pontoise is a literal translation of the old one.

A Roman bridge at El Kantara in Algeria carried the road from Lambessa to the desert south of Biskra, it was badly restored in 1862. At Constantine also in Algeria are two other bridges. The first of which two abutments only survive must have been built in three stages: one of a single arch, the other two above of several arcades. The second on the site now occupied by the railway leading into the town of Constantine was 70 yards above the torrent bed, 65 yards long and 8 yards wide and it made use of a natural arch over the Rummel. The date of its foundation and destruction are both unknown.

The most remarkable of the many remarkable remains in Spain is the bridge of Alcántara over the Tagus (the name means "bridge" in Arabic). It was built between A.D. 98 and 106, the cost being borne by the Lusitanian municipalities. The architect was Julius Lacer. The roadway passes under a triumphal arch which is standing and is about 180 feet above the river. It is supported by six unequal semicircular arches, the two central ones—the largest—having a span of about 100 feet. Even the original pavement is still intact as it was more than 1800

years ago, and since then not a day has passed but someone or other has used the bridge. How many people have crossed it since it was first made? A simple calculation (purely speculative of course but based on reasonable estimates) will suggest that during its existence the number of wayfarers using it must be equal to the whole of the present population of the world! What would Julius Lacer have thought could he have known that



THE RIVERS OF ASIA MUST SUBMIT TO ROME

Far away on the frontiers of empire the Romans flung their bridges across stream and river and so well did they build that some of them to this day are still in use. Thus on the military highway to Batum (the ancient Latis) by the east in shores of the Black Sea this bridge that once rocked and creaked beneath the steel-shod tread of the legions proved of use to Russian troops in the twentieth century. It was constructed by Vespasian in the Roman Empire who reigned from A.D. 69 to 73.

his work would be of direct personal assistance to four hundred million people?

Britain was not without bridges built by Roman engineers during the time when the country formed part of the Roman Empire. Many of these must have been of wood for they have vanished without leaving the slightest trace. Remains of others survived down to modern times. One such over the North Tyne at Cilurnum (Chester) on



MONUMENT TO THE SHAME OF ONE OF HISTORYS MOST TRAGIC CHARACTERS

[illegible]



SO STABLE THAT THE SUPERNATURAL IS INVOKED TO EXPLAIN IT

A noble Roman bridge crossing a tributary of the Eborac at Eborac, a village in England, about 50 miles south of Eborac, has become known in course of time as the Bridge of Alexander, that universal hero in the East, and the following legend is told in relation to it. In spite of repeated attempts the central span would not fall until in 1666, when a prophetic virgin was immured above the gateway that drew the bridge to ruin to the very day.

THE LANCET, 1891, p. 100.

the Roman Wall of Hadrian was described in 1725 by Stukeley as a wonderful bridge of great art made with very large stones linked together with iron cramps fastened with molten lead. The foundations were described by Horsley in 1732 as 'yet visible'—indeed they still remain so and are illustrated in page 482. The Tyne was crossed by bridges at Corbridge (Constopitum) one of the bases behind the line of the Wall and at Newcastle (Pons Aelii) where some fragmentary remains still exist.

London Bridge was built by the Romans but the site of the Roman bridge was 200 feet east of the present one. To it converge Roman roads from both sides. From the north comes the Great North Road and from the south Stane Street from Chichester (Regnum) and Watling Street from Canterbury and Dover. A recently discovered Roman road along the north part of the present Kent and Surrey boundary probably converged on the same point as well as other roads from the south coast whose course is still uncertain in parts.

The later history of London Bridge is interesting. There is a complete gap in our knowledge until

the year 1013 when it is recorded that the Danes destroyed it. Then we learn that between the years 1176 and 1209 another bridge was built by a certain Peter of Colechurch. It was in the line of Fish Street Hill and was borne on twenty arches.

Probably the crossings of smaller rivers were by paved fords. One such near Hemsted Park in Kent was discovered by the writer and Dr. Simmons. It consists of large flat stones placed upon a wooden substructure in the clay bed of a small stream. The spot is a lonely one and it now lies away from all the main lines of traffic buried in the heart of the Weald—doubtless it owes its survival to this isolation. Other paved fords may still exist along the lines of Roman roads—we would expect to find them in a region like the Forest of Dean where iron was smelted and Roman roads were numerous otherwise ferries probably served. It is noteworthy that where Roman roads pass near the coast they often deliberately avoided crossing tidal estuaries, choosing a spot just above the high water mark of ordinary tides. Those bridge builders of the past did not wish to make their task unduly difficult.

Records of the Tombs. X.

The Valley of the Tombs of the Kings

By Arthur Weigall

Formerly Inspector-General of Antiquities, Egyptian Government

FROM about 2160 to 1090 B.C. the city of Thebes was almost continuously the capital of Egypt. It was situated on the east bank of the Nile some 450 miles up-stream from Memphis (near the later Cairo), at a point where the desert recedes some miles back from the river on that bank, but on the west bank comes forward in a mighty range of hills to within a mile or so of the water. At the foot of these great hills which tower above the verdant fields beside the Nile, bounding the view like a wall of gold against the deep blue of the sky, many of the Pharaohs who lived during the earlier part of this period built themselves tombs in the form of brick pyramids or hewed sepulchres cut in the limestone of the hillside.

It was the Egyptian custom to bury a large amount of jewelry and rich funeral furniture with their illustrious dead, and there was always a great danger of robbery whenever the government became too weak or conditions too chaotic to ensure the proper policing of the royal necropolis; and thus when the country fell into a disordered state, during the dark period between 1700 and 1550 B.C., many of these Pharaonic tombs were pillaged and the objects of value stolen. When, therefore, the Pharaohs of the beginning of the eighteenth dynasty had firmly established themselves at Thebes, and had reorganized the kingdom, it became necessary for them to consider a new method of burial which would secure some measure of safety for their remains in the years to come.

Behind the first barrier of cliffs and hills there was a wild

and desolate valley, where once some prehistoric torrent had rushed down from the heights of the Sahara. If a man climbed by a jackal track over the cliffs which faced Thebes he could drop down into this silent ravine on the other side: it was just like scrambling over a huge wall. Or, by going northwards for a mile or two, he could enter the valley at its insignificant mouth and follow its winding, pathless course,

scrambling over boulders and up the smooth rocks of forgotten waterfalls until he was completely shut in by the towering cliffs or rugged hillslopes which echoed to his footfall. The ravine ended in a cul-de-sac, a magnificent amphitheatre surrounded by precipices or steep hillsides, dominated to the south by a mountain which rose against the blue sky like a mighty pyramid.

There was not a blade of grass nor a trace of scrub in this desert valley. The sun beat down on its lifeless rocks all through the morning, and in the afternoon the valley lay in deep shadow, utterly silent except for the sighing of the wind and the occasional cry of a jackal. Although only screened from the teeming life of the Nile valley by a wall of cliffs, it seemed to be infinitely remote and unearthly—a sterile, echoing region of the Underworld or a hollow in the mountains of the moon.

In the reign of Thothmes (or Thutmose) I., the third Pharaoh of the eighteenth dynasty, there lived a man named Anena, who was overseer of the Granary of Amon. He appears to have been a close friend of the king, and it would seem that to him came the idea of burying his sovereign,



AMENHOTEP II.

Cedar statuette, about 2 feet 7 inches high, and representing the King marching and holding a lotus-ringed cane, was found in the tomb of Amenhotep II.

when he died, in this lonely valley behind the cliffs, for he says in the brief biography recorded on the walls of his mortuary chapel: "I arranged for the hewing of a rock tomb for his majesty, alone, no one seeing, no one hearing." The tomb was cut into the base of a cliff at the south end of the ravine, and in order that it might be the better hidden, its entrance was small and roughly hewn—a mere hole, just high enough to admit a man upright. A flight of steps led down to a square room cut out of the rock, and thence a second flight led on to the burial-hall, the roof of which was supported by one central column. The walls of this hall were smoothed over with plaster, and a small sarcophagus of quartzite-sandstone was dragged down and placed here for the reception of the king's coffin.

When the Pharaoh died in 1501 B.C. he was buried here in absolute secrecy, and it is to be supposed that the workmen who made the sepulchre and the priests who conducted the funeral were sworn to silence by the most terrible oaths. The mouth of the tomb was filled in with stones, and boulders were placed over the surface so that the site might have a natural and undisturbed appearance, while the chippings from the interior were dumped at some distance, and were likewise covered with rocks and natural-looking stones and gravel.

In earlier times the religious services for the benefit of the souls of the illustrious dead used to be conducted in chapels built at the east side of their tombs, and here the offerings of food and drink for their sustenance were deposited; but now, since the king's body was hidden away in this desert ravine so as to protect it from robbery, these services could not be held upon the spot. A special mortuary temple was therefore built on the edge of the fields, at a place now called Medinet Habu, being separated from the sepulchre by the great wall of the hills and a stretch of desert ground. The dead monarch's soul, or ka, would therefore have to travel more than a mile down to this temple in order to obtain the good things placed there for it each day, instead of being able to receive them at the tomb itself, as the souls of his predecessors had done, but this disadvantage was apparently considered worth enduring in order to obtain the desired immunity from pillage.

There is some doubt as to the position of the sepulchre of the next Pharaoh, Thothmes II., but it is likely that an unidentified tomb a few yards from that of Thothmes I., now called No. 42, was made for him. Queen Hatshepsut, his sister, however, decided to be buried in another and more remote valley which passes in among the

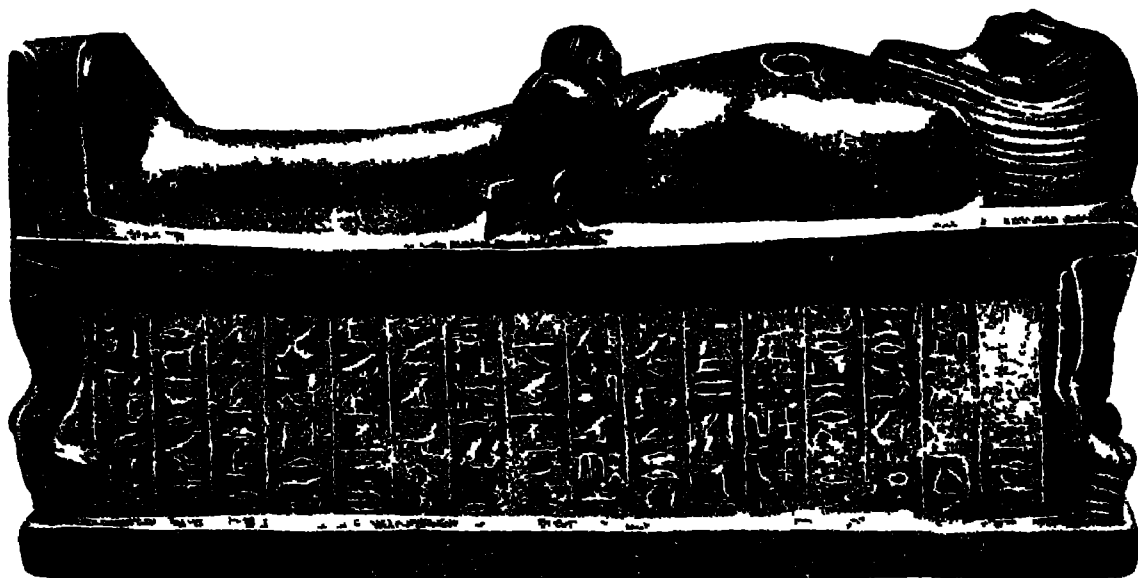
desert hills to the south, and thus at this time it must have been expected that the body of each sovereign would be hidden away in some desolate spot widely removed from the others, and there was no thought as yet of there being one particular valley which should serve as a royal necropolis.

Hatshepsut, however, later changed her mind, and, abandoning this remote burial-place, caused a new tomb to be made for herself in the valley where her father, Thothmes I., lay. This sepulchre was cut into the east side of the cliffs at a point immediately behind the site of her famous mortuary temple, now known as Deir el-Bahri, but then called Zeser-zesru, "The Holy of Holies." In this temple, which faced the Nile valley and the city of Thebes on the opposite bank, her soul was to receive its offerings; but her body was to lie deep in the hills, in a chamber at the bottom of a long passage passing under the cliffs from the valley behind. She seems to have been so pleased with this new tomb of hers that she decided to re-bury her father, Thothmes I., with her; and though we cannot now tell whether she actually disinterred him, she certainly caused a sarcophagus, inscribed with his name, to be placed in her sepulchre.

The fate of Hatshepsut is not known, but it would seem that her brother, the great warrior, Thothmes III., took the throne from her. This king caused his tomb to be made in an almost inaccessible chimney in the cliffs at the south-west corner of this same wild ravine; and, as in the case of the earlier tombs, the entrance was small and rough and capable of being completely hidden. A flight of steps led down to a sloping passage and another staircase; but here he caused a deep shaft or well to be hewn out of the rock, probably for the purpose of carrying off any rainwater which might penetrate through the filling of the entrance, since the place chosen for the tomb, in this rocky chimney, was very liable to become the bed of a torrent upon the rare occasions of a downpour.

The well also served as a deterrent to robbers, for the entrance to the further chambers and passages on the opposite side was blocked up and covered with plaster, so that only a blank wall was visible. The robbers, if they were without tackle, would thus abandon their godless work here, or, if they had ropes, would descend the well, and, finding it empty, would think that the tomb had never been used.

Beyond the well there was a pillared hall, upon the walls of which a long list of nearly 750 gods and demigods was inscribed. In the floor there was a flight of steps leading down to a magnificent oval-shaped burial-hall; but this staircase was placed so that it could be filled up to the top and thus concealed. In the burial-hall stood the stone



THE SOUL IN THE FORM OF A HUMAN HEADED FALCON REVISITING THE BODY

In ancient Egypt one of the wishes addressed to the deceased was that his soul might be able to rejoin his body at his will. The soul was represented in the form of a hawk or falcon with human head and hands. A monument belonging to the twentieth dynasty and now in the Cairo Museum shows the soul bird or Ba with an almost supplicant expression on its face, regarding the immobile face of a recumbent mummy as it places its hands over the region of the heart. When the Ba returned finally to the body it was believed that the dead would live again. The monument, of white limestone and black granite, is about 8 inches in length.

Museum of Egyptian Antiquities, Cairo

sarcophagus, and on the walls were texts and illustrations from the "Book of That Which is in the Underworld," painted in outline like an enlargement of a roll of papyrus.

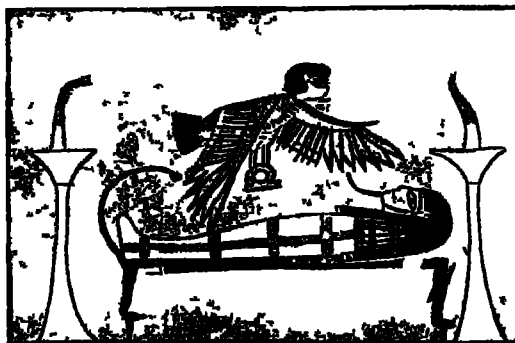
Thus, Thothmes I, perhaps Thothmes II, Hatshepsut, and Thothmes III were all buried in the one valley and though the exact location of each tomb was a profound secret, this desert ravine must now have been pretty generally known to be the royal burial-ground, and was no doubt talked about as such in awed whispers. Thothmes III, like the others, had built his mortuary temple on the other side of the barrier of cliffs, near the edge of the fields, far away from his hidden tomb, and thus all possible precautions had been taken to secure secrecy and to avoid robbery.

Then came Amenhotep II (1447-1420 B C), who followed the now established custom and caused a tomb much like that of his father, Thothmes III, to be made for him in this valley, but on its opposite side, at the foot of a towering cliff three or four hundred yards away. A similar well was made in it, and the same sort of concealed stairway led down

from the first hall to the burial-hall below, where stood the quartzite sandstone sarcophagus. More care, however, was now given to the decoration of this final chamber, though the texts and illustrations were still simply painted in outline.

The next Pharaoh was Thothmes IV (1420-1411 B C), who placed his tomb close to that of Hatshepsut, the exact position of which had perhaps already passed from men's knowledge. The design of his sepulchre was very similar to that of his predecessor, but the sarcophagus was larger, and now the decorations on the walls of the burial-hall were of a more elaborate character, the figures being no longer shown in outline, but being completely painted.

The succeeding king was Amenhotep III (1411-1375 B C), and it seemed to him that this valley was now too widely known as the royal necropolis to be safe from the much feared robbers. There was, however, another ravine immediately behind it, now known as the Western Valley, and far up this rugged gorge, in virgin ground, the king caused his tomb to be excavated for him,



THE SOUL OF A SCRIBE

The soul of Ani visiting his mummy in the tomb. Ani was a Theban scribe in whose honour was made the finest extant copy of the Egyptian Book of the Dead.

British Museum Papyrus No 10,470



AMMON, GOD OF THE DEAD, TUTANKHAMEN, AND AMENHOTEP IV. Ammon is shown protecting the youthful (and headless) Tutankhamen, represented as a youth by the knees of the god. The statue, now one of the treasures of the Louvre, Paris, was discovered by the distinguished French Egyptologist, M. F. A. Mariette. The photograph on the right is of another Louvre treasure, a statue of Tutankhamen's father-in-law, Amenhotep IV., also known as Akhnaton (splendour of the Sun).

Photo on left by Giraudon

amid the tumbled boulders which lay around the foot of a precipice. The chambers, passages, and well in this sepulchre followed the usual lines; and the sarcophagus was placed in the pillared hall at the bottom, surrounded by paintings of the gods and inscriptions from the sacred books. As in the case of his predecessors, his mortuary temple was erected on the edge of the fields, far from the valley, and the location of his tomb was kept secret.

Since the king was himself not going to use the main valley where his ancestors lay, he was not averse to allowing his wife, Queen Tiye, and her

parents, Yuaa (or Iuaa) and Tuau (or Tuaa), to be buried there, and small tombs were made for them. Nobody knows where previous queens—other than Hatshepsut—were interred; but it is possible that some of them were laid to rest in the tombs of their husbands. It was now the custom sometimes to allow an important vizier, or other high official, to be buried in a small pit in the valley, so as to be near his master; and sometimes, too, a pet monkey or dog would be given a little pit to himself.

Akhnaton (1375-1358 B.C.) was the next king, but for religious reasons he removed his residence from Thebes to Tell-el-Amarna, and he was buried at the latter place, as perhaps was Smenkhkara, his short-lived successor. Then came Tutankhamen, who brought the court back to Thebes, and carried the body of Akhnaton back with him, placing it to rest in Queen Tiye's tomb in the royal valley. He then made for himself a sepulchre a few paces from this tomb; but during the period of the court's residence at Tell-el-Amarna the design for the chambers and passages had been forgotten or abandoned, and now Tutankhamen modelled his sepulchre on that of Queen

Tiye, which was probably the only one his architects had seen, the earlier tombs being all hidden and their exact location lost. A flight of steps led to a sloping passage which passed down into a compact series of small chambers, the actual burial-hall having some paintings on the walls which did not follow the older and forgotten tradition.

King Ay (or Ai) succeeded, but he seems to have thought that the royal valley was somewhat crowded, and he selected for his tomb a site in the Western Valley, but some distance farther along it than that of the tomb of Amenhotep III.



Seated statue in black granite, of Amenhotep III, height, 7 feet 9 inches, found in Western Thebes, and now in the British Museum, grey granite 'lily bud' column, from a temple at Memphis ascribed to Amenhotep III, 13 feet 11 inches in height, also in British Museum and the finest portrait statue known of Rameses II, now in the Egyptian Museum, Cairo (photo by Anderson)



MASTERPIECES IN SCULPTURE MADE UNDER AMENHOTEP III, TUTANKHAMEN AND RAMESSES II. The Lion, in red granite, 7 feet in length and 3 feet 6 inches in height, is one of two found at Gebel Barkal, and is attributed to Tutankhamen who restored the monuments of his father, Amenhotep III. Ruskin regarded the two lions as the finest embodiment of animal majesty surviving to modern times from any ancient people that is shown in the British Museum, as is the sandstone head (right) of Amenhotep III, 3 feet 6 inches high, once part of a colossal statue at Thebes.

Photos excepting that of Rameses II by courtesy of the British Museum

The design was something like that of Queen Tiye's tomb and Tutankhamen's, but it was made on a larger scale, and would have been a much more extensive affair if his early death had not ended the work. His sarcophagus of pink granite was much larger than those of the earlier Pharaohs.

Then followed a reactionary Pharaoh named Horemheb, who, being a usurper, caused his tomb to be made in the main valley, where he might feel himself in the company of the great Pharaohs of the past. In design it was an enlargement of that of King Ay, but it had some of the features of the earlier tombs, the plan of which had somehow become known to his architects again. Flights of steps and sloping passages led to a well, beyond which there was the old-fashioned hall, with the concealed staircase leading down through its floor

to the large pillared hall where stood the sarcophagus of pink granite, not so big as Ay's, but more beautifully executed. Just before he died he ordered his architects to begin to sculpture the walls, instead of leaving them merely painted, as his predecessors had done; but the work was still unfinished at his death.

Here he was buried in 1315 B.C. But the next king, Rameses I., founder of the nineteenth dynasty, only reigned one year, and therefore had no time to complete his tomb, which was situated near by. The stairs and passages at the entrance were like those in the sepulchre of Horemheb, but the king had to be buried in a pink sarcophagus hastily placed in the first chamber, and the surrounding walls were painted, but not sculptured. This king caused his wife to

be buried in another valley some distance to the south, and from that time onwards for several generations the queens were buried there, together with the princes of the blood royal.

The next Pharaoh, Seti I., made a huge tomb for himself a few yards from that of Rameses I., and caused it to be sculptured from end to end, the reliefs being afterwards brilliantly coloured. In plan it was very similar to the tomb of Horemheb, but the well was dispensed with, and the sarcophagus was, for the first time, made of alabaster. His mortuary temple was erected to the north of those of his predecessors, not far from the entrance of the gorge which wound its way among the hills up to the royal area; and it is possible that at about this period some sort of roadway was made leading up to the tombs. The tomb of Rameses II., the succeeding Pharaoh (1292-1225 B.C.), was excavated in the rock close to that of Queen Tiye, the position of which was now probably forgotten; and that of the next king, Merenptah, was made some 200 yards away, his body being placed in a beautiful sarcophagus of pink granite, which was to have been enclosed in an outer sarcophagus of the same material, but this latter was so large that the workmen were unable to drag it



INTERIOR OF THE TOMB OF QUEEN NEFERTARI

One of the most beautiful of the tombs in the picturesque Valley of the Tombs of the Queens is that of Queen Nefertari, wife of Rameses II. Its fine stucco-relief portraits of the queen were still extraordinarily bright when the tomb was discovered by Schiaparelli in 1904. The ceiling is painted a dark blue sprinkled with golden stars.

Photo by Will R. Ross, Chester



MAGIC FIGURES CUNNINGLY CARVED TO SERVE A DEAD PHARAOH IN THE OTHERWORLD

Funerary statuettes found among other art treasures in the tomb of Amenhotep II. 1 represents a panther marching, and is a masterpiece of ancient art work, extraordinarily lifelike in pose; 2 and 6 are heads respectively of a cow and a calf in cedar wood; 3, an open left hand in acacia wood, is also beautifully moulded; 4 is a notable example in sycamore wood of the uraeus or sacred cobra, winged, with human head; 5, a vulture, is also in sycamore, finely carved. All are effectively coloured.

Museum of Egyptian Antiquities, Cairo

into position it was meant to occupy, and it was left lying in one of the passages

The following king, Amenmeses (1215 B.C.), excavated a tomb for himself near by; but when, some fifteen years later, the Pharaoh Setnekht, founder of the twentieth dynasty, began a tomb for himself a few yards away, the position of this sepulchre of Amenmeses was already forgotten, and the new tomb was driven straight into it and had to be abandoned. Rameses III, the succeeding king, however, deviated the course of this forsaken tomb, and made it into a very presentable sepulchre for himself; while his mortuary temple was erected at Medinet Habu, close to that of Thothmes I. Queen Tausert, wife of Setnekht, being for some time sole ruler of Egypt, had a large tomb in this valley, and she allowed her vizier, known to us as the Chancellor Bey, to make an imposing sepulchre here for himself, which was an innovation.

After the reign of Rameses III. the Pharaohs seem no longer to have taken much trouble to hide their tombs, and as they ceased to build mortuary temples for themselves at the edge of the cultivation, it is possible that the services on behalf of

their souls were now performed at the mouths of the sepulchres themselves, for these mouths were now large and imposing, and the entrance passage was no longer a little rabbit-hole sloping at a steep angle, as in the case of the tombs of the earlier Pharaohs of the eighteenth dynasty, but was a large, level corridor of palatial proportions. Much bigger sarcophagi were now employed, as a protection against robbers, and each Pharaoh's body lay under several tons of granite.

But though these later tombs were no longer made in secret, the tombs of the earlier kings were well hidden, and it is obvious, for instance, that Rameses VI. (1157 B.C.) did not know of the existence of the tomb of Tutankhamen (1358 B.C.), for he cut his sepulchre into the rock immediately above it, the earlier tomb being hidden under tons of chippings dumped there from the excavation of the neighbouring tombs. Rameses XII (1118-1090 B.C.), who ended the twentieth dynasty, was the last Pharaoh to make a tomb for himself in this valley, which was now no longer the wild and lonely ravine of earlier times, but had become a crowded royal necropolis echoing to the voices and footsteps of priests and workmen.

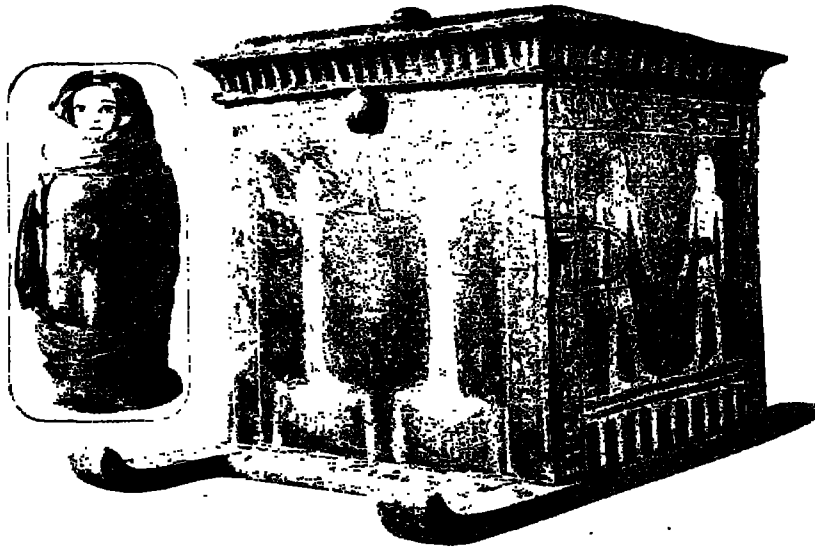
Two centuries later, when the court had moved to Lower Egypt, and Thebes was no longer the capital, wholesale robberies were committed in the valley among such tombs as were not effectually concealed, and the royal mummies were dragged from their coffins and stripped of their jewels and other valuables. At length a devoted confederacy

Marseilles, while some came from other distant places. There is an inscription stating that one Apollopheanes of Lycopolis visited the tombs in the seventh year of Antoninus; another visitor records a date in the reign of Augustus, and a few other dates are to be seen.

There is the record of a certain Jasios, who says:

"I have seen the peculiarly excellent workmanship of these tombs, which is unutterable to us." A Roman official named Januarius states in Latin that he came with his daughter Januaria, and that he "saw and marvelled," and he says: "Valete omnes." A curious Christian prayer is: "O God Almighty, and Saint Kollouthos, and Saint Father-Patemothis, and Saint Father-Ammonios the Anchorite, intercede with God that He may grant life to Artemidora with Paphnuce for a little time. . ."

The following also is rather amusing: "I, Philastrios the Alexandrian, who have come to Thebes, and who have seen with my eyes the work of these tombs of astounding horror, have spent a delightful day."



CANOPIC COFFER AND JAR FROM A COURT NOBLEMAN'S TOMB

Found in the tomb of the lord Maherpra, fan-bearer at the court of Amenhotep III. Four such jars, containing stomach and large intestines, small intestines, lungs and heart, and liver and gall bladder, have on their covers heads of four genii, children of Horus, whose task was to protect the deceased from hunger and thirst. Small white coffins were sometimes used instead of jars. The fine casket has four compartments and is mounted on a processional sledge.

Museum of Egyptian Antiquities, Cairo

of priests or nobles undertook the removal of all the endangered mummies to a private tomb near Hatshepsut's mortuary temple, which would serve as a secret hiding-place; and here the royal coffins were ranged in a double row, the entrance being so effectually concealed that it remained lost and untouched until modern times.

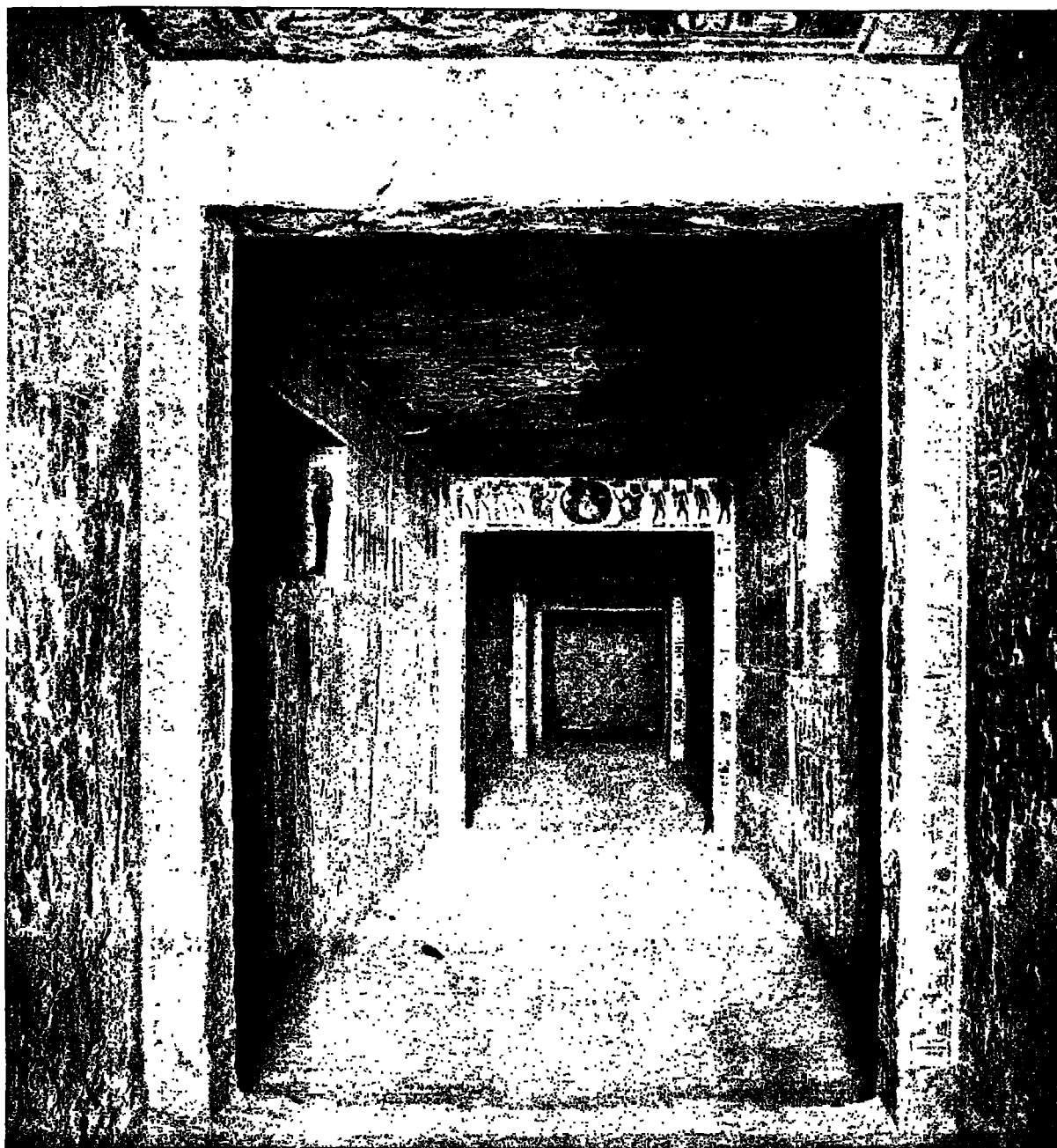
At some other period another group of royal mummies was hidden in the tomb of Amenhotep II. But during the centuries which followed the robbers ransacked the abandoned valley, and, so far as we know, only three tombs—those of Queen Tiye and Akhnaton, Yuya and Tuya, and Tutankhamen—escaped pillage. The two latter had both been slightly robbed shortly after the burials, but the first-named remained intact.

In Greek and Roman times tourists used to visit the valley in considerable numbers, descending by torchlight into such of the tombs as lay open; and they were wont to scratch their names or scribble their comments upon the sculptured walls. It is interesting to notice that two of these sightseers, Dionysios and Poseidonax, hailed from

When Strabo, the geographer, visited Egypt in 24 B.C. some forty tombs were known to exist, and Diodorus (57 B.C.) speaks of seventeen being open in his day, but says that forty-seven were recorded in the official register kept by the priests, which would mean that they counted in the various small pits in the valley. Napoleon's archaeologists mention eleven; in 1835 twenty-one were open; and at the present day, counting the small pits, about sixty are known.

In 1881 the hiding-place wherein the ancient priests had secreted the bodies of many of the kings was found near Deir el-Bahri. A pit some forty feet deep led to a passage about 220 feet long, at the end of which there was a chamber in which the royal mummies lay. Here were the bodies of Thothmes II., Thothmes III., Seti I., Rameses II., Rameses III.—all from the royal valley, and a number of other kings of the periods before and after that during which the valley had been used as a royal necropolis. They are now in the Museum of Egyptian Antiquities at Cairo.

For the last five-and-thirty years extensive



IN THE HEART OF THE ROYAL VALLEY OF DEATH ENCOMPASSED BY THE SILENCE OF THE HILLS
 Interior of one of the tombs in the Valley of the Kings, situated in the hills to the west of Thebes. These "august habitations in the West" are not all royal tombs; some are of princes and high functionaries, as, for example, that of Maherpra; and some are mere mummy pits. Queens of the nineteenth and twentieth dynasties had tombs in the Valley of the Tombs of the Queens. The positions of the two valleys are indicated in the colour map of Egypt facing page 676.

excavations have been conducted in the valley, which is now known as the Valley of the Tombs of the Kings, or, in Arabic, Bibân-el-Mulûk. In 1899 Monsieur Loret, then Director-General of Antiquities in Egypt, discovered the tombs of Thothmes I., Thothmes III., and Amenhotep II., and in the last named he found the bodies of Thothmes IV., Amenhotep III., Merenptah,

Rameses IV., Rameses V., and Rameses VI., which had been taken there by the priests as mentioned already, in order to save them from robbers. Large numbers of antiquities were found, but these tombs had all been much pillaged, and presented a spectacle of great devastation, the objects being broken up and scattered, and the bodies in most cases much damaged by irreverent handling.

In 1902 Mr Howard Carter at the expense of Mr Theodore M Davis excavated the tomb of Thothmes IV and found many antiquities therein mostly smashed up. In the following year he found the tomb of Queen Hatshepsut but hardly anything had been left in it by the plunderers. In 1905 Mr Quibell and the present writer working at the expense of Mr Davis found the tomb of Yuaa and Tuau the parents of Queen Tiye and here at last a burial was brought to light which had not been much damaged by thieves though the

wonderful valley now remains to be examined, and perhaps there are no more tombs to be found.

One curious fact however should be mentioned. In the hiding place at Dair el Bahri were found the mummies of some of the kings of the twenty first dynasty who reigned after Rameses XII, the last king to be buried in the royal valley so far as we know. These bodies were evidently brought from sepulchres at no great distance but so far no trace of these tombs has been found and therefore we may hope that in one of the



HATSHEPSUT'S MORTUARY TEMPLE ADJOINING THE VALLEY OF THE KINGS

Hatshepsut the first female sovereign in history originally intended that she should be buried in a remote valley to the south of Thebes but changing her mind she caused a tomb to be made for herself in the valley where her father Thothmes I had been laid to rest. Immediately on the other side of the cliffs from Thebes and the Nile valley she constructed her mortuary temple of Dair el-Bahri (seen in this photograph) a massive structure in three terraces partly built and partly hewn out of the solid rock.

Photo E. N. A.

bodies had been disturbed and the jewelry had been taken away.

Here were wonderful chairs, beds, tables, chests, and so forth which are fully described in the writer's *Glorious Pharaohs*. In 1907 Mr Davis's excavations under the present writer's supervision led to the discovery of Queen Tiye's tomb, in which the body of Akhnaton was found wrapped in sheets of gold. The same excavations laid bare the tomb of Horemheb in 1906 but this was found to have been badly plundered and little was found.

About 1907 these excavations in the valley were taken over by the fifth Lord Carnarvon and Mr Carter who as already described in these pages were rewarded by the discovery of the tomb of Tutankhamen, the greatest find ever made in Egypt. Only a very small portion of this

desert valleys among the Theban hills the royal necropolis of this dynasty will one day be discovered by the excavator.

Visitors from all over the world now go to Luxor the modern town built upon the site of ancient Thebes to see the ruins left by the Pharaohs and crossing the Nile to the west bank they go up to the royal necropolis by the road made along the winding valley or they walk over the cliffs by the bridle path which passes across the hills above Hatshepsut's temple. Seven of the most important tombs are lit by electricity and sixteen are open to the public. The once desolate and lonely gorge however, would hardly be recognized in the present well kept and well-guarded tourist resort with its tidy roads and neat walls and its many tombs each protected from sacrilegious hands by iron gates.

Temples of the Gods. XXVI.

Great Hindu Temples of India

By F. Deaville Walker

Author of "India and Her Peoples"

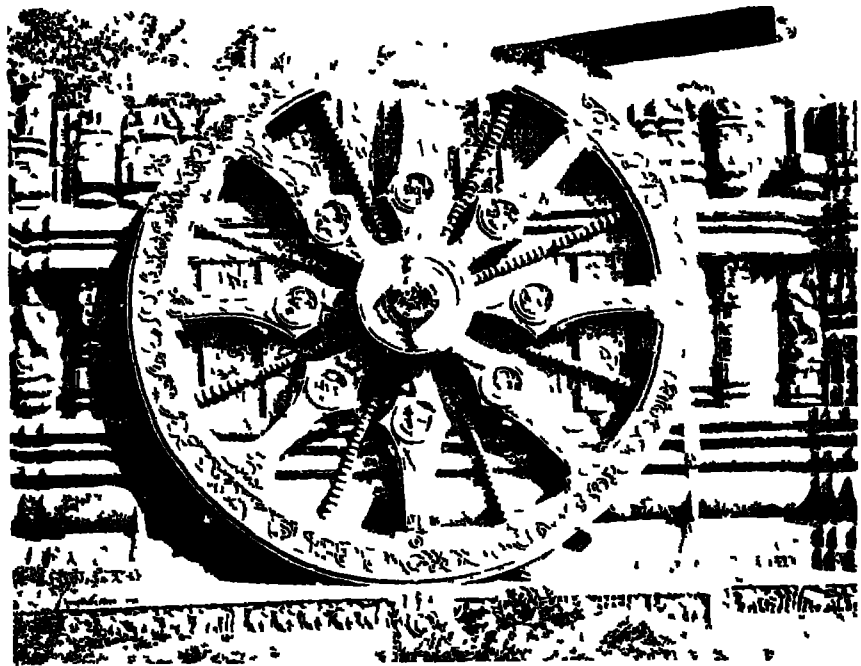
IN earlier chapters in WONDERS OF THE PAST the author has dealt with the ancient Buddhist and Jain temples and also with the wonderful cave temples of India. The purpose of the present study is briefly to outline the development of the sacred architecture of the great Hindu faith.—EDITOR

INDIA is above all a land of religion, two of the greatest religious systems of mankind were born on her soil—Hinduism and Buddhism. The former scarcely extended beyond the confines of India, but the latter, dying out in the land of its birth, spread to other countries and now counts many millions of devotees in Ceylon and Burma, Nepal and Bhutan, Tibet, China, Japan and Siam. To these great and ancient faiths two smaller, but by no means insignificant, ones must be added, Jainism and Sikhism, neither of which ever spread beyond India. Jainism is as old, if not older, than Buddhism, but Sikhism arose as recently as the sixteenth century and is practically confined to the Punjab. Besides these characteristically Indian faiths there are in the country some 77 millions of Mahomedans, but Islam arose in Arabia, not in India. The religion of the vast majority of Indian peoples is Hinduism, a faith so complex and varied as to defy clear definition but held in one or other of its many forms by no less than 239 millions of people. It is with the ancient architecture of this religion from its earliest developments that the present chapter deals.

When the Aryan invaders entered India about the second millennium before Christ they brought with them a very simple faith. They tramped through the great passes of the Hindu Kush singing hymns in praise of their thirty-three nature gods. They had no images and when they first settled in

the Punjab ("The Land of Five Rivers") they built no temples. Every man made a small altar and offered sacrifices for his own family.

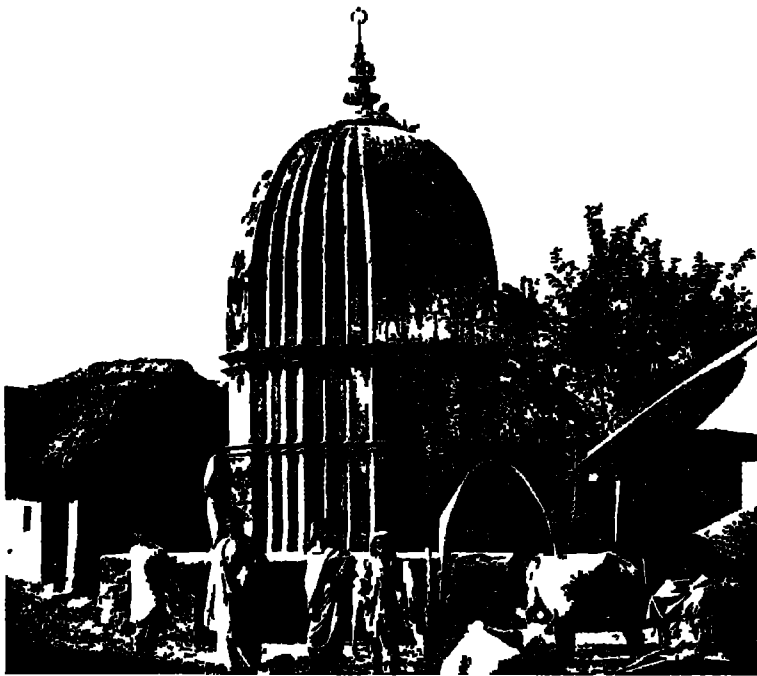
As the centuries passed and life became more settled and worship more organized a regular priesthood arose and small temples were built. In all probability the earliest of these were fire temples in which the sacred fire was kept upon the altars. Of course none of them have been preserved, they were no doubt built entirely of wood—small square cells with a very high conical roof made of bamboos tied together at the apex and covered with thatch. A large earthenware pot would be inverted over the apex to keep out the rain. There has always been a considerable amount



WHEEL OF THE SUN GODS CHARIOT AT KANARAK

Built about the middle of the thirteenth century, the Black Pagoda at Kanarak must have been a temple of great size and splendour. The huge pinnacle, which was probably 200 feet high, has fallen, but the porch, 138 feet high, remains. On both sides of the temple are wheels carved in stone. Evidently the whole building was designed to represent the Chariot of the Sun God.

From "Through India and Jungles" by F. Deaville Walker



VERY EARLY TYPE OF NORTH INDIAN TEMPLE

None of the earliest temples have been preserved, made of wood, a simple square cell covered by a high roof of bamboo and thatch they soon perished. But when stone came into use the ancient form was still retained in more artistic guise.

Photo by F. Deaville Walk.

of speculation as to the origin of that roof, many holding the view that it was merely an enlargement of the ordinary primitive dwelling, while some even trace its origin back to ancient Nineveh where there have been found bas-reliefs showing buildings of very similar shape. When brick and stone came into use the old form would still be retained, the same essential design being carried out in the more durable material instead of in wood and thatch. Decorative ideas would develop and the little temples, still keeping to the original shape, would become increasingly ornate. Even to day many small temples of this type may be seen all over North India. The high roof is termed a "sikhara." It is exceedingly likely that the earliest of these "sikhara" temples would be the royal chapels of Aryan chieftains and kings, and to this day in South India a temple is called a "Kovil" or King's House.

Just as the little Roman or Saxon churches of England were the embryos of our great Gothic and Renaissance cathedrals, so these early Aryan temples were the nucleus of the splendid temples still existing in North India. It is true that we have no very early examples of Hindu temples from which to draw assured facts as to the process of development; the oldest that have survived are very fully developed, but it is evident that they have a long historic growth behind them. Fortunately, we possess sufficient clues to enable us to determine with something like reasonable accuracy the main stages of development from the simple cube-and-roof shrines of primitive times to such magnificent temples as those of Bhubaneswar and Khajuraho.

Broadly speaking, that development lay on the following lines. With the increasing skill of the Aryan builders the small square



WITH INCREASING SKILL THE ROOF WAS MADE HIGHER

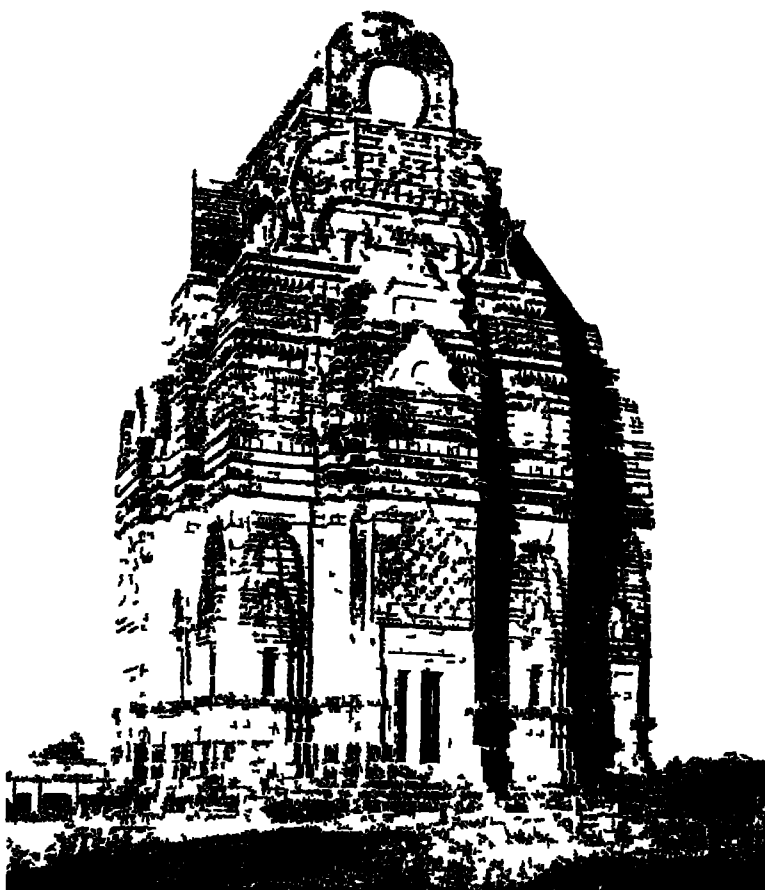
This high bulging roof is termed a "sikhara" and is characteristic of North India. As the builders became bolder it grew higher and as the masons increased in skill it became more ornate. These two temples are comparatively late, but they illustrate none the less the lines along which the early temples must have developed.

Photo by the Rev. A. S. Hutchings.

cell would grow larger and the "sikhara" tower higher. With the growth of ritual in Brahminical times the use of symbol increased. Sacred books dealing with such matters were composed and ever-increasing emphasis was laid on the importance of ritual. Strict rules were laid down for the guidance of master builders. Villages were to be arranged on certain definite plans and temples built so as to be symbolic expressions of theological or philosophic ideas. Thus, a temple to Vishnu (the Preserver) must face towards the rising sun and a temple of Siva (Lord of Death) must face towards the setting sun, a temple consecrated to the worship of Brahma (the Creator) must have a door on each of its four sides—images of Brahma always represent him as having four faces scanning the universe in all directions. And so it came about that the little square temple would be adapted to these conceptions, facing east or west or having four doors according as it was designed for the worship of Brahma, Vishnu or Siva.

As ritual developed the small square chamber of the little temple would come to be regarded with increasing reverence and awe. At first it was occupied by the altar on which offerings were thrown upon the sacred fire. Later, when images came into use, the image would take the place of the altar, the primitive fire temple would become an idol shrine and the presence chamber of the god, a veritable holy of holies into which priests alone might enter. The worshippers would remain without, viewing the image or symbol of the god only through the open doorway. This would naturally lead to an extension of the threshold from a mere doorstep into a prayer platform upon which the worshippers performed their devotions, and the development of this into a porch with a pillared roof would only be a question of time.

While the master builders were growing more skilful and more daring in construction, the masons were gaining experience in stone carving and both temple and porch would become increasingly ornate. The great sikhara was gradually



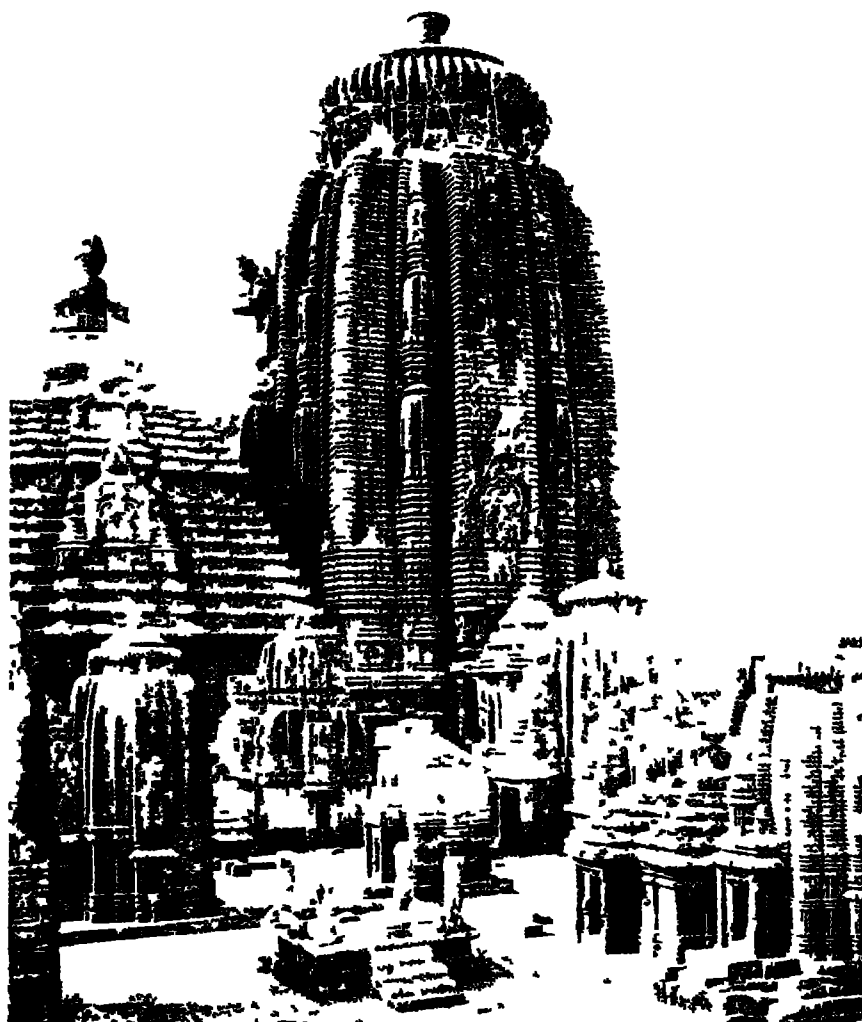
LATER DEVELOPMENT OF THE OLD DESIGN

While the builders kept to well defined styles they did not slavishly copy older work. This is the famous Chennakesava Temple at Chidambaram (eleventh century A.D.). Notice the same essentials but mark the increased height (80 feet) and elaborate decoration. The roof is unusual, instead of having a point for its apex it ends in a curious barrel shaped ridge not unlike those on the stupas of South Indian temples—see the photographs in pages 1187 and 1189.

Photo by F. Derville Wilzer

covered with ornament and in process of time miniature imitation sikhara's began to cluster around it purely for decorative effect. What in the early fire temples had been an inverted clay vessel covering the apex of the thatched roof was converted into a carved stone representation of a lotus flower with its petals turned down. The interior too from being a small cubical cell with bare walls came to be decorated with mural carvings and an ornate dome appeared between the original square chamber and the great hollow sikhara.

The porch or "mandapam" also became more elaborate. The number of pillars supporting its roof increased from the original four and from being plain columns they became elaborately carved monoliths. The first flat roof of the porch also underwent considerable development and



STEADY DEVELOPMENT IN SIZE AND STYLE

Just as the simple cell developed into our great Gothic cathedrals so the simple temple of India developed into the great shrine of which this the Great Temple at Bhubaneswar is but a minor example. It is one of the most famous. There is still the cell but mark how small it is. The shrine of the porch (on the left) has developed into a fine altar shrine for pilgrim miniature shrines have gathered around

adornment the striving after artistic effect led to it taking the shape of a dome the internal decoration of which was often of great beauty. In some cases the porch was walled in thus becoming an enclosed building instead of an open portico.

Then the development went a stage farther. A stone terrace or platform appeared around the base of the temple the temple and porch occupying the centre of it. This platform soon became higher and more elaborate and in some cases had a small but highly decorated shrine at each corner built in the shape of small shikhara temples. Noble flights of broad steps led to the platform and then to the porch and the shrine. It will readily be seen that such a platform, by raising the temple

added immeasurably to its dignity and in some of the temples of this type Hindu architecture reaches its climax of grace and beauty. It must not be supposed that all temples followed these exact lines of development—far from it. We have but attempted to indicate the general line of progress the size elaboration of style and decoration depended largely upon the wealth, devotion and tastes of the pious builder who was usually impelled by a desire to acquire merit. Monarchs, rajas nobles and wealthy landowners built according to the means at their disposal.

Let us now visit two or three important temples of the shikhara type. Unfortunately the finest examples are rather out of the beaten track and are seldom visited by the ordinary tourist or European resident in India. Medieval and modern shrines of the simple cell and shikhara kind are fairly numerous there are also many with the addition of the mandapam. The more highly developed temples of the best periods of Hindu architecture are all too rare. Many of them were destroyed

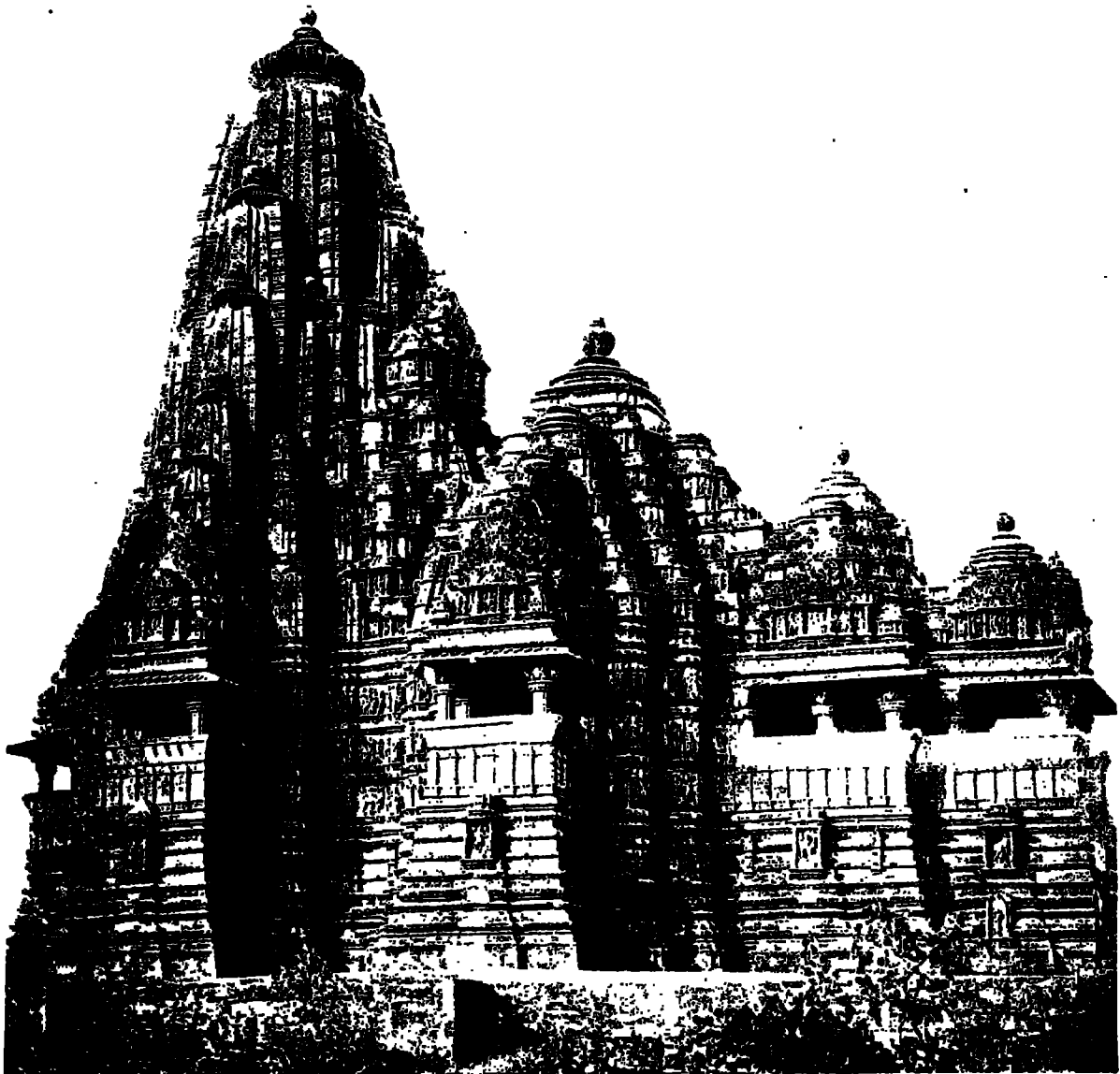
during the Mahomedan invasions and others deserted for centuries have fallen into ruin or have been despoiled by local landowners seeking stone for housebuilding.

One of the most remarkable groups of temples of the North Indian type we are considering is at Bhubaneswar in Orissa. It is said that at one time there were 7,000 temples and shrines encircling the sacred lake. To-day there are still several hundreds of them most of them are in a state of decay but they include valuable examples of temple architecture from the seventh to the thirteenth centuries and illustrate the process of development. In the older ones the shikhara is low and rather stumpy and the porch is a walled-in

chamber rather than an open pillared one. These old buildings are remarkable for their massive dignity. A second period is characterised by a very high *sikhara* with sides that are almost straight until they curve in near the top. Yet a third period is represented at Bhubaneswar by temples of a highly decorated order, the stone carving being of very fine quality. One very notable feature is the clever blending of horizontal and perpendicular lines in the structure and decoration of these temples. One of the Bhubaneswar

temples, known as the Great Temple, has been described by Ferguson as "perhaps the finest example of a purely Hindu temple in India." It is said to have been built about A.D. 617-657 but two additional *mandapams* were added about the end of the eleventh century. The great *sikhara* of this splendid temple is 180 feet high and every inch of it is covered with most elaborate carving.

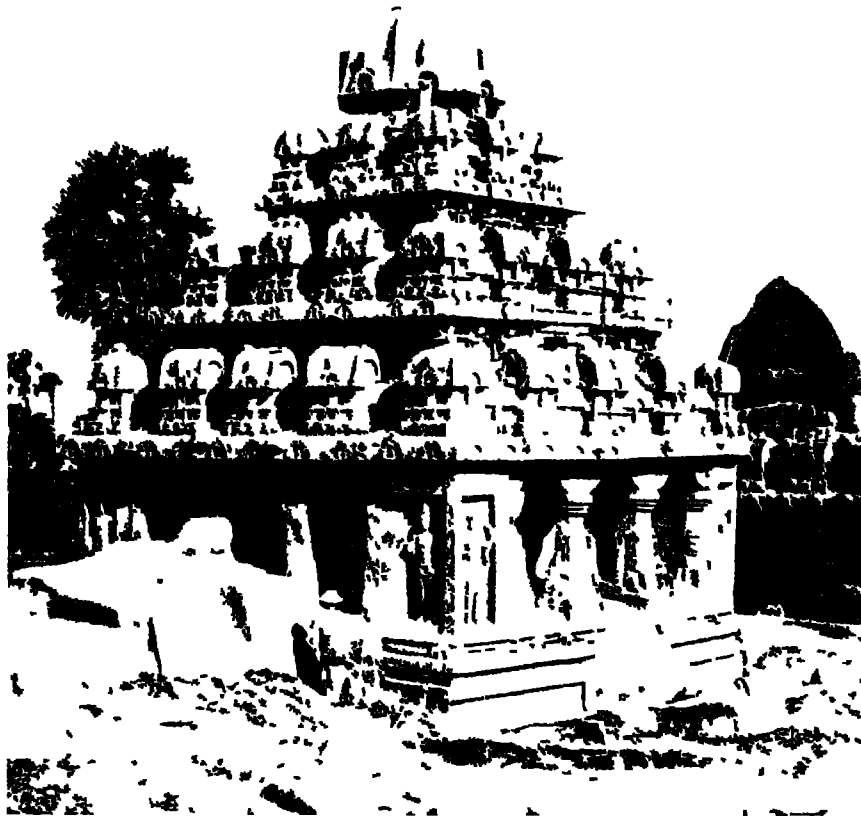
The province of Orissa has other examples of this style of architecture, notably the famous Black Pagoda at Kanarak. It has been long



GLORIOUS CLIMAX OF NORTH INDIAN ARCHITECTURE

At Khajurho in Bundelkhand there are twenty-eight temples that show the North Indian architecture fully developed. Notice the high plinth and the massing of miniature *sikharas* around the central one for purposes of decoration. The porch, too, has become very ornate. The whole group of temples dates from A.D. 950 to 1050, and this particular one, the Kandariya Mahadeva, is the largest of those dedicated to Siva. It is 109 feet long, 60 feet broad and 116 feet high, and in spite of its elaborate detail is exquisitely graceful.

By permission of the Director and Secretary of the Victoria and Albert Museum



THE STARTING-POINT OF SOUTH INDIAN ARCHITECTURE

This is Dharmaraja's Ratha, one of the "Seven Pagodas" at Mamallapuram, it is hewn to represent a Buddhist "vihara" or monastery. It is important to notice how the roof (called a "vimana") rises in three terraces and is surmounted by a small dome. Here we have the embryo of all the great temples of South India, from this model they all developed.

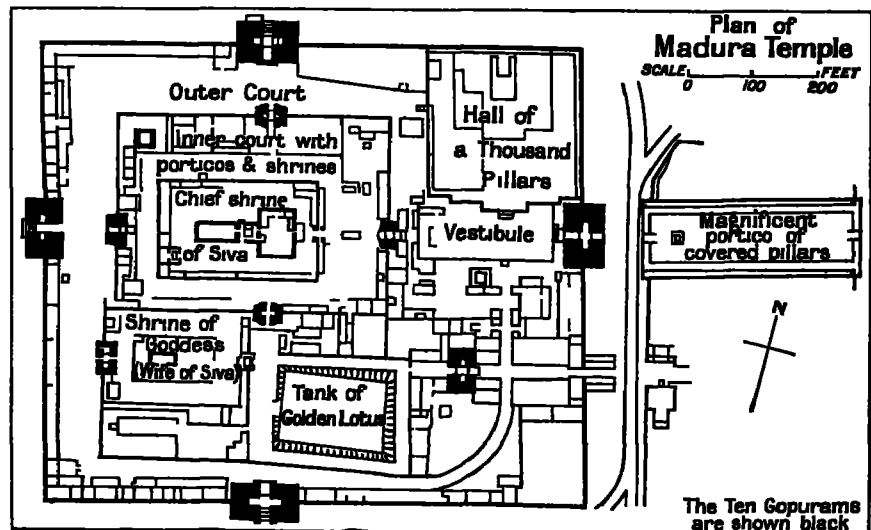
(Note by the Rev. J. P. Nicholson)

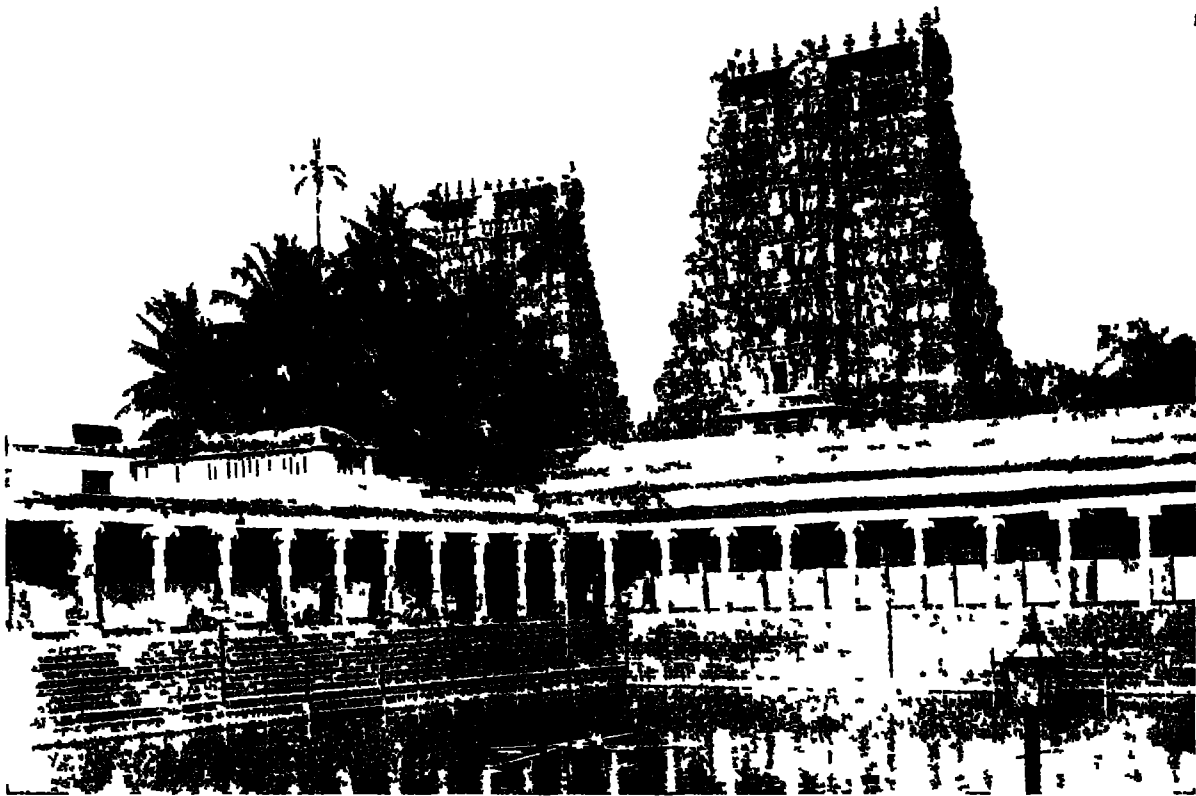
deserted, and unfortunately the great sikhara has fallen. The porch, however, remains complete and is of a very large size, being some 138 feet high. Probably the height of the sikhara was nearly 200 feet. The stones are very large and must have been brought thirty miles, it must have been a stupendous task to lift them to the height of 100 and, in some cases, to nearly 200 feet from the ground. When complete, this great temple must have been unusually finely proportioned and the carving on the porch is superb. It has one very unusual feature, on either side of the plinth of the fallen sikhara there

are magnificently carved stone wheels, apparently the whole temple was designed to represent the chariot of the Sun God. The Black Pagoda dates from about the middle of the thirteenth century.

Another example is to be seen on the summit of the rock fortress of Gwalior, where only the mandapam remains of what must have been a temple of great size and beauty. It is known as the Sas Bahu temple and it dates from A.D. 1093. Of the sikhara only the foundations remain, but the porch is in a very good condition and is in three storeys reaching a height of about 100 feet. The central chamber rises to a finely carved dome constructed of overlapping stones in concentric circles. Another very important group of temples is at Khajuraho, the old capital of the Chandola dynasty in Bundelkhand. They number twenty-eight and from inscriptions it is clear that they were all built in

the space of a century, about A.D. 950 to 1050. They are a later development of the style we are considering and much more complex than





TANK OF THE GOLDEN LOTUS AT MADURA AND ITS WONDERFUL SURROUNDINGS

All the great temples have a sacred tank in which the worshippers bathe as a part of their devotion. This photograph was taken in the afternoon when very few were about. In the mornings the colonnades and steps are full of life and at times of festival the whole temple is crowded with thousands of pilgrims who come from all parts of South India. The water is filthy to a degree, yet the worshippers bathe in it and are even known to drink it. In the background are seen two of the great "gopurams".

Photo by F. Deaville Walker

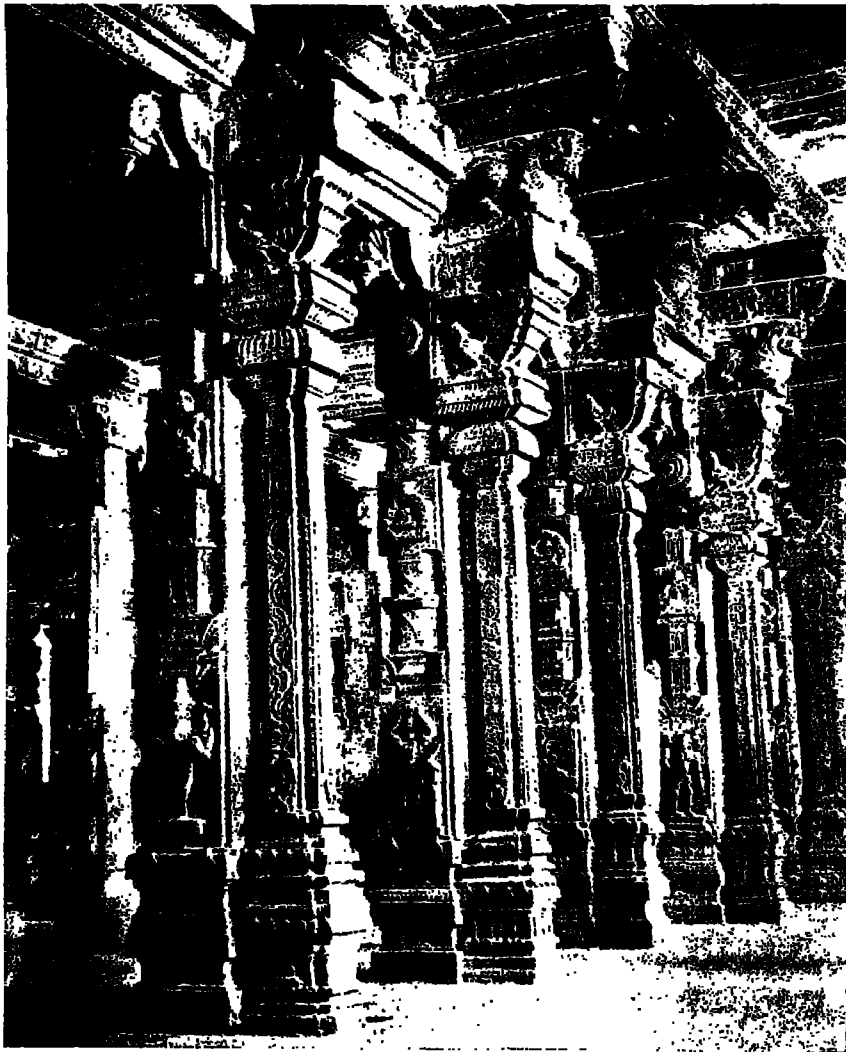
the earlier examples. Small decorative sikharas and domes are clustered around the large ones to give effect and they are very ornate, the stone carving being exceedingly lavish. These temples stand upon high plinths and some of them are further raised upon large terraces with smaller shrines around. These Khajuraho temples are the more interesting in that they belong to both the Vaishnava and Saiva sects of Hindus and also to the Jains, a fact which suggests the toleration of the century during which they were constructed.

South India is famous for temples of a design totally different from those of the north and these we must now examine. Archaeologists are divided as to the names which should be used to differentiate these two classes, but for the purposes of this article it will be less confusing for the uninitiated reader if we use the simple terms "Northern" and "Southern," for these two great architectural styles may be broadly so distinguished, though to some slight extent they overlap.

At Mamallapuram, on the sea coast some thirty-five miles north of Madras, we have what

are known as the "Seven Pagodas," a group of very small temples that are absolutely unique in India. Thanks to well preserved inscriptions we know that they were constructed in the seventh century by the Pallava kings. They were not built but hewn from huge boulders and masses of rock that lie around. This fact alone would give them distinction but they have a still greater importance. We may regard this place as the cradle of South Indian architecture for from these small rock-hewn shrines have developed those vast and world-famed temples of the Tamil country.

These Seven Pagodas are and always have been, dedicated to Hindu gods, but in architectural style they are copies of earlier Buddhist buildings. Nothing is more certain than that South Indian temple architecture has developed from Buddhist models. The Buddhists had two kinds of buildings "chaityas" or chapels and "viharas" or monasteries. In early Buddhist ages both were built of wood or hewn out in the rocks (see pages 881 to 896), then similar ones were built of stone but the same general designs were adhered to. At



PEERLESS SCULPTURE OF INDIAN CHISELS

One of the glories of Madura is its famous "Hall of a Thousand Columns" where each pillar is carved from a single block. Unfortunately, these colonnades are covered with flat slabs, and we miss the soaring vaults of the great Gothic aisles. The Indian architects have no interior effects comparable with the naves of Lichfield or Winchester.

Photo by F. Deaville Walker

Mamallapuram we find those little Hindu temples hewn in the precise forms of Buddhist chaityas and viharas. The chaitya was an oblong structure with a horse-shoe shaped gable at one end and a semicircular apse at the other, the roof itself being a sort of barrel. A careful study of the photograph in page 1186 will show that the main decorative device in these Mamallapuram temples is a row of miniature chaityas which occurs as frieze and parapet, while the roof is decorated by miniature horse-shoes in imitation of the gable end of the chaitya—just as in the North Indian temples the great sikharas were decorated with

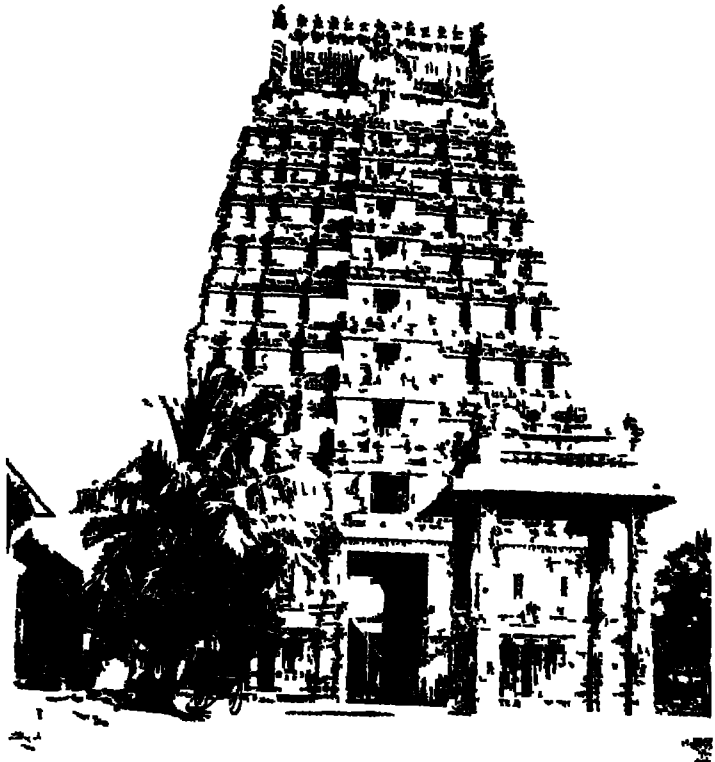
clusters of miniature sikharas. The vihara-like temple which we are considering is known as Dharma Raja's Rath. Mark the way the roof rises in three tiers or terraces to a small dome and notice also that each storey is encircled with imitation chaityas. A roof so formed is called a "vimana." This temple is the embryo of the architectural style we are now dealing with.

With the photograph of this little rock-hewn temple before us, let us travel to Conjeeveram, the Benares of the south and one of the seven most sacred cities of India. Outside the town there stands a small but venerable Hindu temple that forms the next stage in the development we are tracing. It is called the Kailasanatha and like the "Seven Pagodas" was the work of the old Pallava kings. Here again we are on safe ground, for numerous inscriptions on the walls and pillars give clear information as to founders and building dates. This temple was built, not hewn out of rock. It is also very much larger and more developed than its prototype at Seven Pagodas. Notice that the vimana roof has risen from three tiers to four and the

terraces have contracted, but the decorations still consist of imitation chaityas. Observe, however, the development of a large walled-in porch in front. Another sign of growth is the surrounding courtyard enclosed by rows of fifty-nine small cells; this feature once caused the Kailasanatha to be regarded as of Jain origin, a notion now proved to be erroneous. There is yet another feature to be noted—the very small tower over the entrance; this was the embryo of the huge gate towers of later centuries. This temple, and six smaller Pallava temples in Conjeeveram, form the connecting link between the little vihara

shrine at Mamallapuram and the great South Indian temples

As the architects became more skilful they became more daring and the vimana grew higher and higher until it reaches its climax in the wonderful temple of Tanjor where the majestic vimana rises in thirteen storeys to a height of 190 feet—the greatest triumph of Dravidian architecture. Only those who have seen this glorious creation can realize its dignity and beauty. To add to the effect the surrounding courts and halls have been kept low and the stately pyramidal vimana rises unchallenged into the sky casting no shadow at midday. It was begun about the end of the tenth century and completed about A.D. 1012 to commemorate the victories of the Chola King Rajaraja I. Sculptured chaityas still form the chief feature of decoration. Compare the photo of this temple with that of



TRIUMPHS OF HINDU ART AT TANJOR AND CONJEEVERAM

Upper photograph. This is not a shrine, only a gate tower or gopuram. In the south these towers grew steadily bigger and the great temples have a number of them ranging from about 70 to 200 feet high. This one is at Great Conjeeveram. Below. In the splendid Tanjor temple the vimana 190 feet high has increased to no less than thirteen storeys. The surrounding buildings have been kept low so that this great tower should dominate all. It is the greatest triumph of South Indian temple architecture.

Photo. by I. Deville Walker (top), L. L. D. 1913 of the Director and S. S. of I. V. 1911 M.

North Indian *sikhara*, and the essential difference is immediately apparent. But Tanjor is unusual: the South Indian temple ordinarily developed on quite another line. In most instances the *vimana* remained low and the square chamber that formed the holy of holies remained comparatively small; *mandapams* and new courts were added by succeeding monarchs, the walls and gate towers growing higher and more ornate until the latter became the dominating feature.

There are many temples of this character in South India, some of them being of enormous size. A good example is the temple of Siva at Madura, which is more than a mile in circumference and twenty-five acres in extent; it has ten gate towers ranging from about 100 to 200 feet high. The temple forms an immense square and has a gate tower in the centre of each outer wall. These towers are called "*gopurams*"; at the base they are oblong and they rise in many storeys to a ridge, not to a point or a dome like the *vimana*. They are lavishly decorated, the older ones with sculptured *chaityas* and the later with innumerable

figures of gods, often in stucco and gaudily painted. The writer once bribed the priests to allow him to ascend to the top of one of the gate towers of Madura. It was an unpleasant climb for it had to be undertaken without shoes; the stone staircases were dark and dirty and were infested with bats who resented the sacrilegious intrusion. At last the top was reached, and sitting in a sort of man-hole we looked down upon the labyrinth of courts and colonnades, bathing tanks and cloistered halls, towers and shrines. The *vimanas* over the shrines of the chief god (Siva) and the goddess (Minakshi) being overlaid with gold glittered in the sunlight. One characteristic feature is the "*Hall of a Thousand Columns*" (the actual number is 985), each column being cut from a single block of stone and wonderfully carved. However the largest, if not the finest, of these great Dravidian temples of South India is that of Srirangam.

This all too brief account of Hindu architecture will, it is hoped, at least serve to show the skill and originality of Indian craftsmen, and also something of their great devotion to the gods they worshipped.



PRANCING STEEDS IN LIVING STONE

A feature of some Hindu temples is their wonderful open-air porticoes, each pillar of which is carved from one stone. The above view is very characteristic; and there are many such porticoes in South India. This one is in the Vishnu temple on the Isle of Srirangam in the Kavari River. It is the largest temple in India—perhaps in the world—for its outer wall forms an immense square over two miles in circumference, and it has in all sixteen great *gopurams* or gate towers.

Photo by F. Deaville Walker

The Master Builders. XI. The Marvel of the Roman Amphitheatre

By J. A. Brendon, F.R.Hist.S.

Author of "The Ancient World," etc.

AS the civilization of ancient Egypt calls to our mind a vision of the great pyramids, and as the culture of Greece may be epitomised in beautiful temples of which the Parthenon is the supreme example, so are there no architectural relics more essentially Roman in execution as in spirit than the amphitheatres—monuments that stigmatise with an anomalous barbarism the culture that produced Virgil and Horace. Not to be confused with the amphitheatres are the theatres of Greece and Rome, where the gentler art of classical drama was fostered, and which in WONDERS OF THE PAST form the subject of an illuminating study from the pen of Professor E. A. Gardner.—EDITOR.

ROMAN civilization is the foundation on which rests a great part of the fabric of society in the world to-day; we can never estimate our debt to ancient Rome. Yet are there not times when we shake our heads and wonder: could a people so cruel as were the Romans really have bettered the lot of suffering man? We see the stain of the great amphitheatres. It fascinates our gaze. For a while we forget Rome's many virtues; we are aware only of her shame. Slaves and hirelings fighting to the death that the lustful blood thirst of their masters may be gratified; noble creatures of the wild goaded to fury that the lords of the earth may be thrilled by the spectacle of human beings struggling with frenzied beasts—that is the stain of the great amphitheatres and nothing can wipe it from memory.

Yet the Spaniards still have their bull fights. Until not very long ago bear baiting was a recognized "sport" in Britain. These, it may be argued, are mild forms of recreation compared with gladiatorial shows. They are milder, no doubt; but the difference is only one of degree. The Romans were cruel. Theirs, however, was that cruelty born of defective or undeveloped sympathies which, to a greater or less extent, is common to the people of all ages and all climes. There are those to-day who will spend £10 on the hire of a seat whence they may watch two boxers contending for the mastery. Are we to believe that they do this solely because they are connoisseurs of the pugilistic art? Is it simply the wish to see the better side win that attracts 40,000 people to a football match?

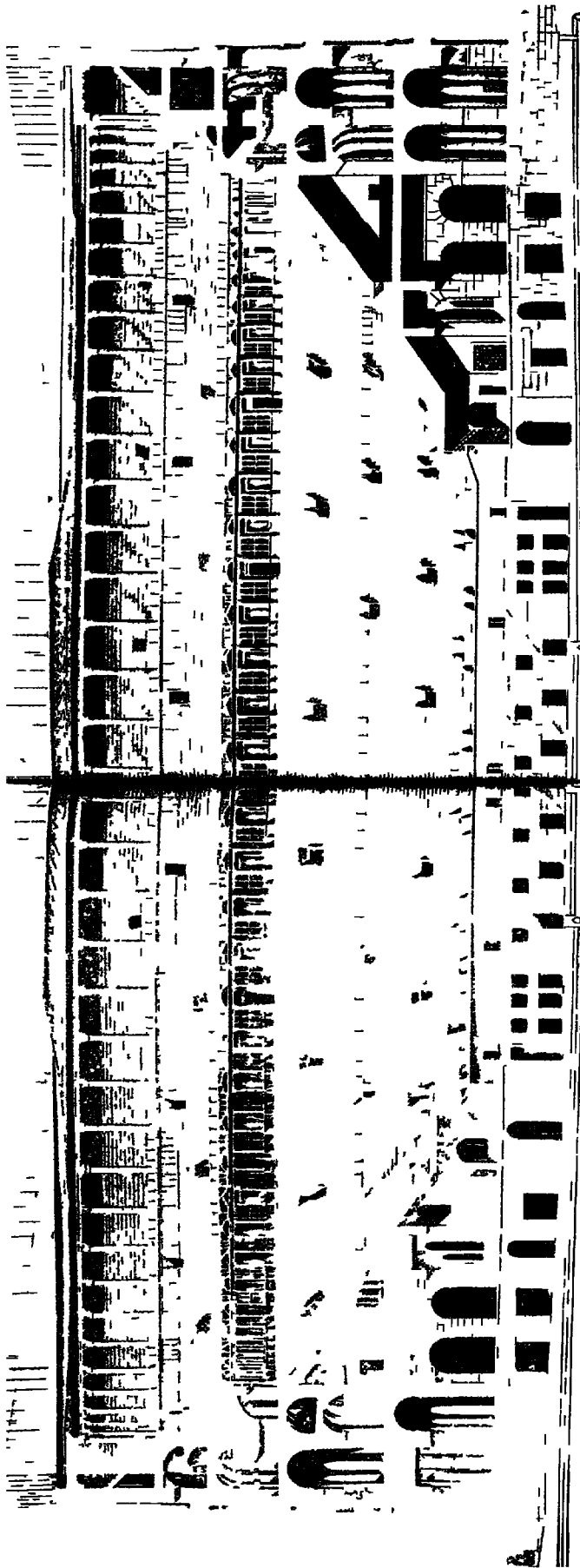
We may find nothing harmful in the excitement of the ring; we may have no reason to deprive football crowds of their "innocent amusement." But what will the moralist of the future say?

Pliny—a cultured gentleman if ever one lived—saw nothing harmful in gladiatorial fights. Cicero commended them and even the gentle Marcus Aurelius had only one serious complaint against these spectacles of slaughter, and that was that they were merely tediously monotonous.

Gladiatorial fights first took place at Rome several centuries before the Christian era, but then only in connexion with great men's obsequies—as a survival, it would seem, of some old Etruscan funeral rite adopted by the early Romans. Gradually these fights lost their original significance. The people acquired a liking for them and in the later days of the Republic ambitious politicians and men of wealth anxious to curry favour began to organize shows at their own cost simply to pander to the brutal instincts of the mob. In this respect the great Julius Caesar was a notable offender.

In 264 B.C. Marcus and Decimus Brutus exhibited three pairs of gladiators at Rome at the funeral of their father; Titus Flamininus at his father's funeral in 174 B.C. exhibited seventy-four; a little more than a century later Julius Caesar, without even troubling to allege an obsequial pretext, treated the populace to a fight between three hundred pairs. His example was widely followed; and under the Empire there came to be hardly a town of any size in the Roman world, from the Trent to the Nile and from the Tagus to the Euphrates, but could boast of regular and frequent shows in its amphitheatre.

The cities of Greece deserve mention as exceptions to this general rule. Outside the hybrid city of Corinth the Greeks for the most part remained loyal to their art and the precepts of their philosophers. Once it was proposed that gladiatorial exhibitions should be held at Athens. The citizens vetoed the proposal; they refused to overthrow



from this drawing the structural detail of the Colosseum the picture of all the Roman amphitheatres, may be clearly understood. The whole of the arena is divided by a high wall, the top of which is covered by a series of arches, the spaces between the arches being filled with a solid masonry. The arena is surrounded by a high wall, the top of which is covered by a series of arches, the spaces between the arches being filled with a solid masonry. The arena is surrounded by a high wall, the top of which is covered by a series of arches, the spaces between the arches being filled with a solid masonry.

their Altar of Pity. Likewise however the taste of the Roman populace for scenes of licensed suffering was fully met. The more the upper tiers were filled the stronger it grew and it continued unabated until the end of the Western Empire and even later gladiatorial combats were finally abolished only when Theodoric the Goth made himself master of Italy.

The sight of bloodshed provokes a love for it, that is an elementary truth. It can be well illustrated by a story told by one of the Christian Fathers—Augustine (not to be confused with the missionary sent by Pope Gregory, the Great to Britain) relates how a friend of his Alipius by name, was once taken to an amphitheatre against his will. That he might not see the horrors of the arena, Alipius closed his eyes intending to keep them shut throughout the show. But before long the excitement and shouts of the assembly defeated his resolution. He opened his eyes and looked—

looked and was lost. For a moment the scene of hideous slaughter horrified his senses, but it soon intoxicated and from that day, try though he would, he could not stifle his thirst for similar sights. He became a slave of the amphitheatre.

In the early days gladiatorial combats took place in the forum or market square of a town. There the giver ('editor') of a show would have a temporary wooden scaffolding erected for the accommodation of spectators. But as time went on and gladiatorial combats became more costly and more frequent, some generous donor usually offered his fellow townsmen a permanent building specially designed for these exhibitions, and here the buzz of eager nations ran.

In murmured pity or loud-voiced applause, As man was slaughtered by his fellow man And wherefore slaughtered? wherefore, but because Such were the bloody Circus' general laws And the ungenial pleasure

—BROWN 'Claudio Harold,' IV, 139

—AXIS OF THE FLAVIAN AMPHITHEATRE

surrounded by a perfectly smooth high wall to guard the spectators from the arena. The wall was provided for in front of the podium, and the space between the podium and the wall was filled with a solid masonry. The arena is surrounded by a high wall, the top of which is covered by a series of arches, the spaces between the arches being filled with a solid masonry.

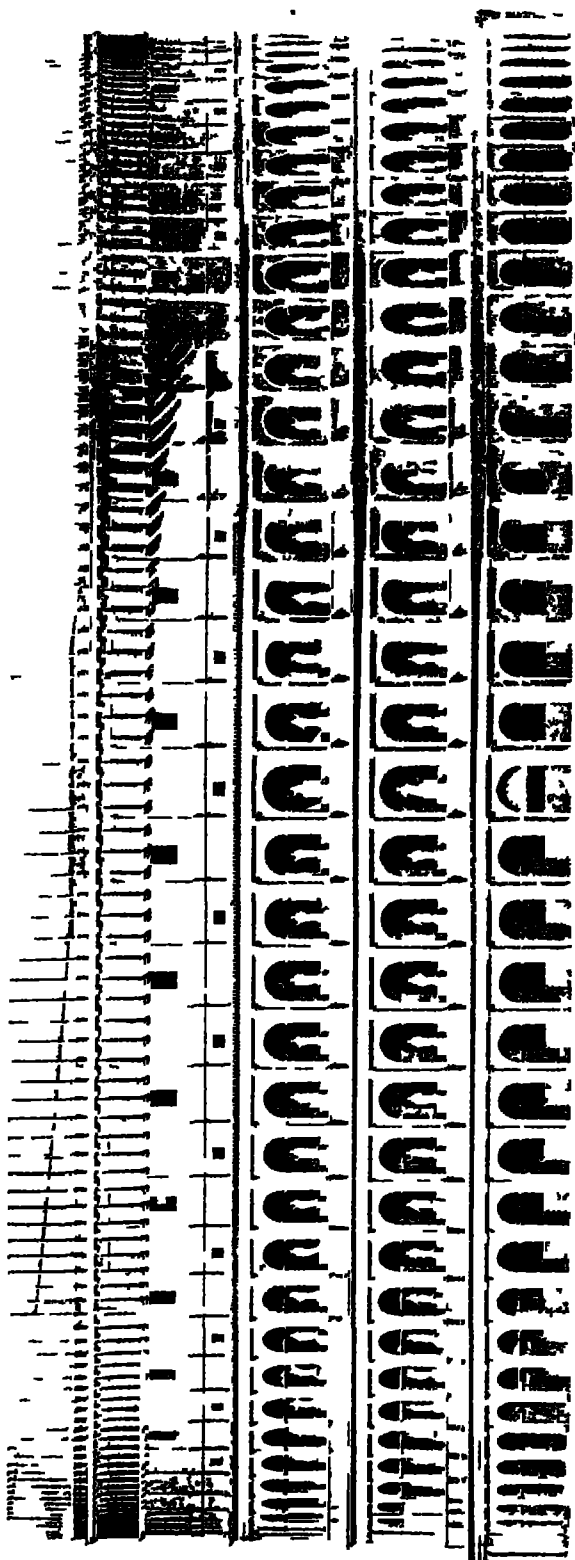
After a description by Lemus Diao Pao

So came to be constructed the great amphitheatres which are in these latter days accounted among the most wonderful of all the wonders of the past. The finest remains are to be found in one would expect in Rome itself and in the towns of those western provinces where men drank deepest of the spirit of the Imperial City—at Capua, Pompeii, Pozzuoli and Verona in Italy, at Ailes and Nîmes in France, at Italica near Seville in Spain at Pola in Istria, and at El Djem (Thysdrus) and Carthage in Africa. But there were buildings hardly less magnificent in the East—at Antioch in Pisidia at Laodicea and at Alexandria. Even distant Britain had its amphitheatres at Cirencester, for example, and at Silchester.

The amphitheatre at Pompeii, it is believed, was the first of its kind to be erected and dates from about the year 80 B.C. It is an immense building, elliptical in shape like all the amphitheatres, and once had seats for 20,000 spectators

That there should have been at Pompeii eighty years before the birth of Christ enough supporters of gladiatorial exhibitions to justify this building is a noteworthy fact. The demand for amphitheatres in more important cities must already have been very great. We are apt to think that Pompeii played a big part in history. Really it was a comparatively unimportant city. Its tragic fate has invested it in our eyes with a fame that it never enjoyed while it was the home of living men. In the Roman world it was regarded merely as a provincial town.

A certain Gaius Scribonius Curio first gave the citizens of Rome a building specially constructed for gladiatorial combats. In 59 B.C. according to Pliny, Curio erected two wooden theatres, back to back, and so designed them that when not required for dramatic performances they could be skewed round to form one amphitheatre. Each theatre might be filled with spectators—so Pliny



VIEW IN ELEVATION OF THE GREAT COLOSSEUM OF ROME

Few more impressive monuments of antiquity exist to-day than the Colosseum. Rising, 157 feet high its outer wall was built of travertine limestone faced with marble and divided into four stories, the three lowest ones pierced with arched windows and the fourth (topmost) of solid masonry into which are introduced forty ventilating windows. Each side is surmounted by an entablature that runs in an unbroken line 1,400 feet round the building. The orders of the various arches are as follows:—Lower, Roman Doric; second, Ionic; third, Corinthian; the heavy top storey with its Corinthian pilasters was built solid to give the necessary support to the heavy masonry of the velarium. Further illustrations of the Colosseum will be found in plates 500 and 501.

A further illustration by Louis D. from Monumental Architecture

asserts—and the operation performed without even one of them leaving his seat.

In 29 B.C. a less fantastic structure was built, but this, for it had only a shell of stone, was burned to the ground in A.D. 64 when, if the story be true, Nero set fire to Rome. Several temporary amphitheatres were run up to take its place. Then, in A.D. 72 on the site of the artificial lake with which Nero had adorned the grounds of his Golden House, the Emperor Vespasian began the construction of the Colosseum, the most sublime effort of Roman architecture, Rome's glory and her shame. The work was completed in the reign of the Emperor Titus, the capturer and plunderer of Jerusalem, and by him inaugurated in A.D. 80. Never before had Romans been treated to such an orgy of blood. For a hundred days the inauguration games went on continuously: thousands of gladiators perished, thousands of wild beasts.

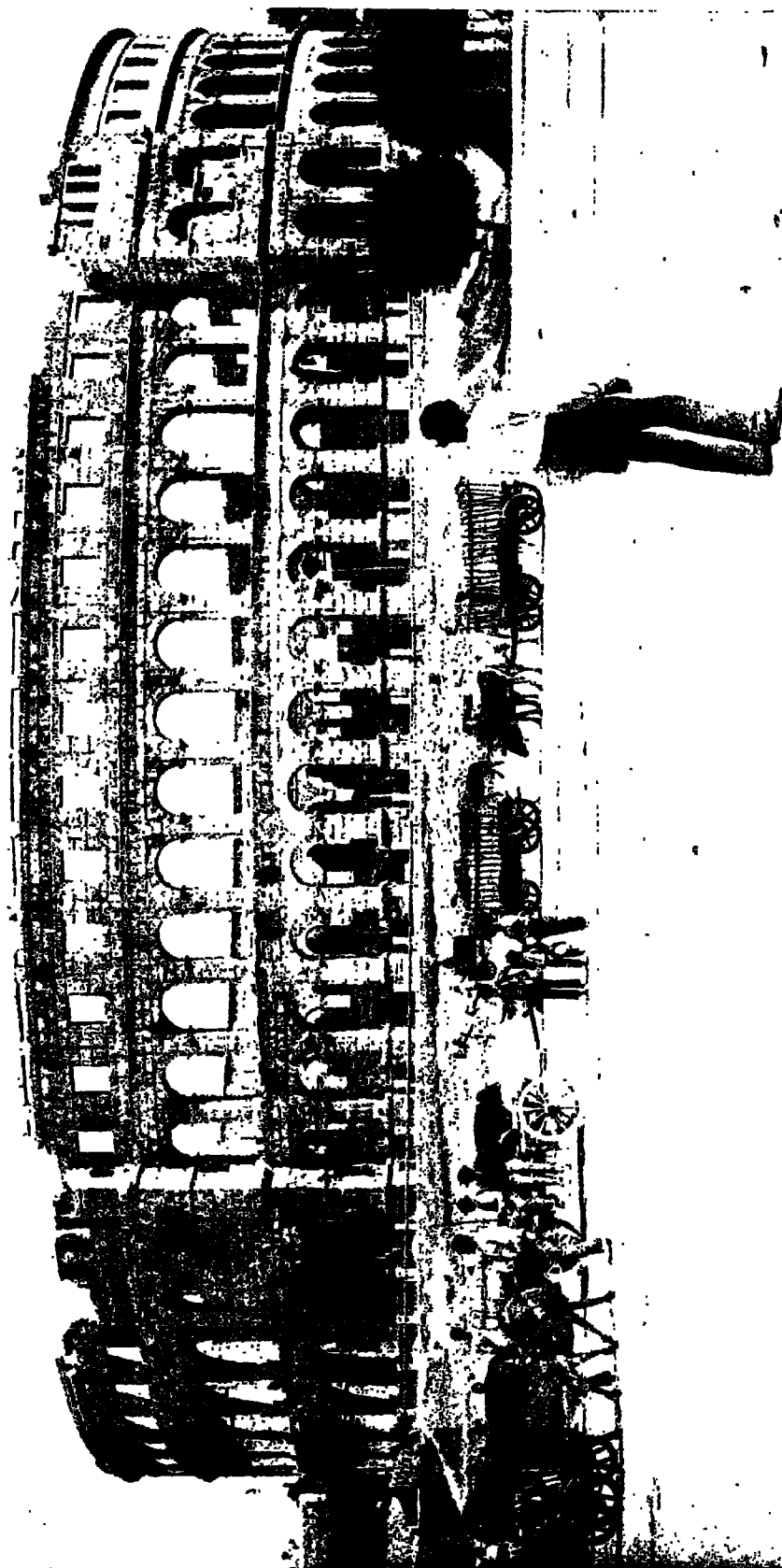
The Emperor Trajan outdid even this grisly achievement. To celebrate his "triumph" over Decabalus the Dacian king in A.D. 106 he sent down into the arena 10,000 men. The Emperor Claudius, however, organized the most brutal perhaps of all the exhibitions given at the Colosseum, the Flavian Amphitheatre as we should call it if we would be pedantically correct (see page 501). Claudius, an imbecile as cruel as he was mad, lived only for the pleasures of the arena. Day after day he would sit in his chair of state from morning to night, leaving it only to urge the fighters on.

In the later years of the Middle Ages the Colosseum was used literally as a quarry. Vandal hands stole from it an immense quantity of marble and other stone. It remains, however, one of the most stupendous of all the memorials of the past.

Wrote Byron

A ruin!—yet what ruin! from its mass
Walls, palaces, half-cities, have been
rear'd,
Yet oft the enormous skeleton ye pass
And marvel where the spoil could
have appear'd

—"Childe Harold," IV, 143



BEAUTIFUL ARCHES FROM WHICH THE PEOPLE OF POLA WATCHED THE FIGHTS OF GLADIATORS AND WILD BEASTS

The Italian town of Pola in the once Austrian district of Istria is particularly rich in Roman buildings, and of these the greatest is the amphitheatre built about the same time as that of Verona (see page 1198), towards the end of the Western Empire. Its outstanding architectural feature is its topmost "attic" course which is pleasingly light in comparison with that of the Colosseum, and obviously designed for no other purpose than to support the masts of the "velarium" (awning). Greek forms are not found here at all, and only plain pilasters adorn the arches; unconventional also is the breaking of the arcades by the introduction of projecting staircases of which two are seen above.

The greatest length of the Albert Hall in London measures 270 feet the greatest breadth, 240 feet. The corresponding dimensions of the Colosseum are 615 and 510 feet. This bald comparison gives a clearer picture of the size of the building than could pages of description. According to a fourth century authority, the "Notitia Urbis Romae," the Colosseum could accommodate 87,000 spectators. Until recent years the figure was generally accepted. It has now been discredited, but the most cautious calculation cannot reduce the

amphitheatres, that at Silchester for example, were formed mainly by the throwing up of an embankment others, like that at Pompeii, seem to have been excavated rather than built. At Pola only the outer walls now stand. The presumption is that in this vast circus, as we know to have been the case in many smaller buildings of the kind the seats were made merely of wood. The Colosseum was furnished with seats of marble, and the extent of each was marked by grooves cut in the stone. At Pompeii also the seats were of



AMPHITHEATRE OF ARLES WHERE GALLIC ROME CELEBRATED ITS FEAST DAYS

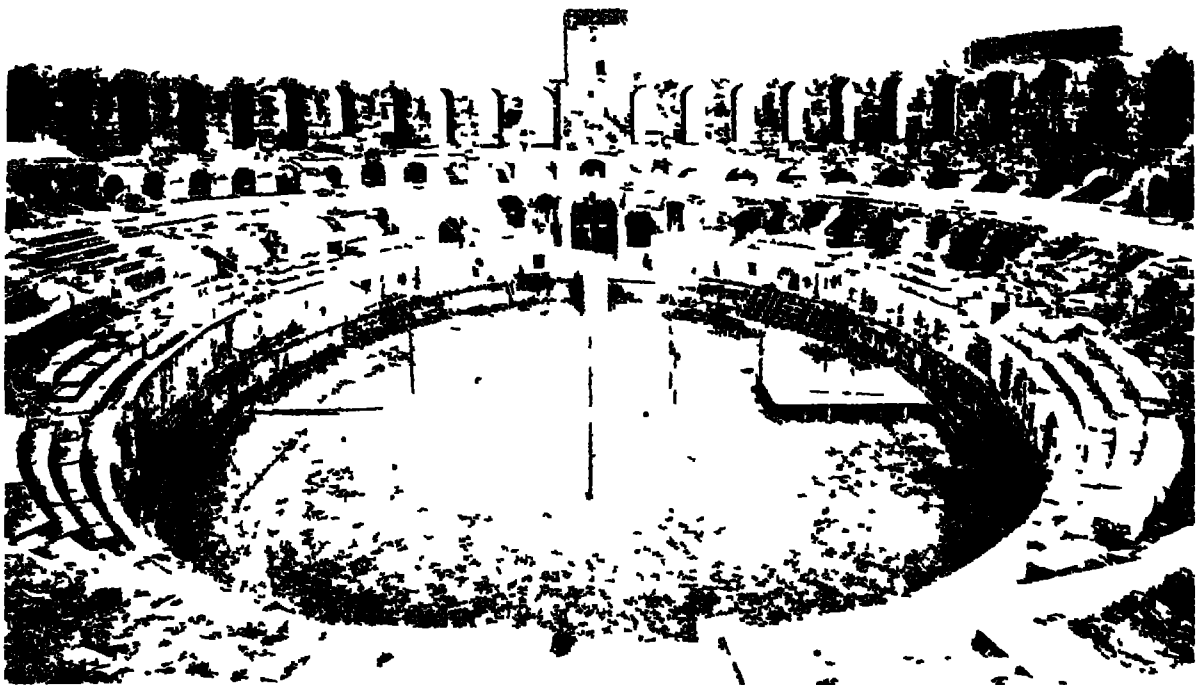
built in the first or second century A.D., the amphitheatre formed one of the chief buildings of ancient Arles, seat of the Prefect of Gaul and often visited by Constantine. The great edifice is in an excellent state of preservation in its lower stage, and a clear idea of the structure of arena and podium (the lowest tier of seats) may be gathered from the photograph showing the ancient building filled with spectators assembled to watch one of the bull fights that now take place in it at intervals.

number of seats to fewer than 45,000. In addition, there was standing room for 5,000 persons at least—probably for many more. The Colosseum, too, was only one of the great amphitheatres of Imperial Rome. Remains of another, the so called "Castrum" Amphitheatre, which dates from the time of the Emperor Trajan, may still be seen.

All the great amphitheatres were designed in imitation of the plan which inspired the builders of the Colosseum though they differed one from another in the details of their construction. In many cases advantage was taken of natural features of the ground and the buildings were placed in depressions between hills, this saved the expense of a lofty enclosure round the seats. Some

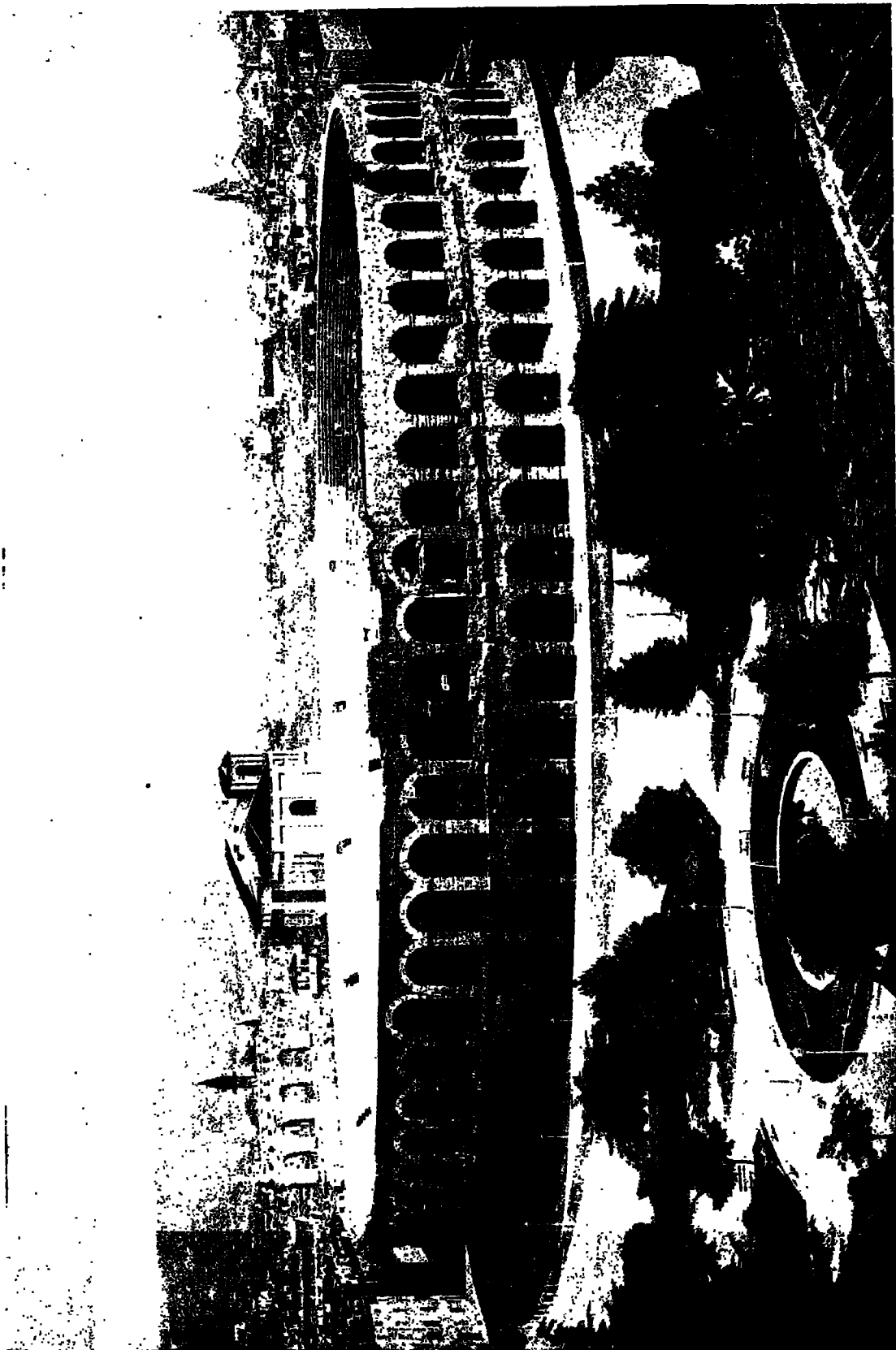
stone and numbered, tickets for them could be booked in advance.

The outer wall of the Colosseum, 157 feet in height, was built of travertine stone and divided into four storeys. Eighty arcades pierced each of the three lowest. The topmost was of solid masonry, broken only by forty small windows to admit light and air to the passages surrounding the building, and attached to it were brackets to support the poles on which sailors specially employed for the purpose stretched the awning. The arcades of the lowest storey served as entrances: two were reserved for the Emperor, while seventy-six could be used by the general public. The two remaining ones gave access only to the arena.



GREAT ARENA AND GIRDLING WALLS OF AN AMPHITHEATRE OF THE PROVINCIA

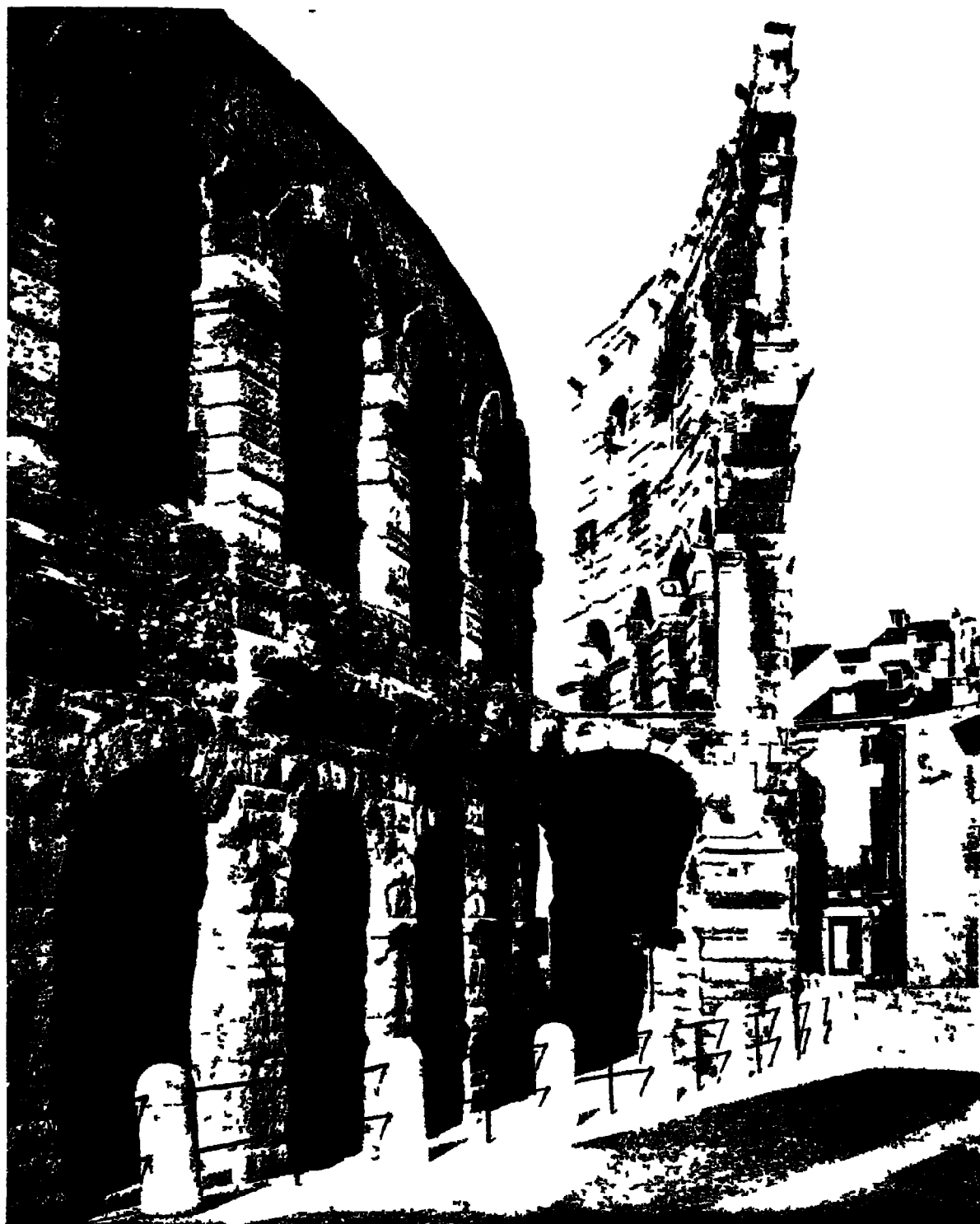
Although one of the largest in France, this amphitheatre at Arles is less perfect architecturally than that of Nîmes (see page 1201). Its greatest length is 149 yards and its shortest axis measures 118 yards. Both storeys of the building are more or less intact (though the crowning 'attic' has disappeared) and were built of huge unmortared blocks, both of them are adorned with sixty arcades fronted with pilasters, in the lower the order is Doric and in the upper Corinthian. Used in the Middle Ages (eighth century A.D.) as a fortress it was strengthened and had added to it square towers, one of which is seen above.



AIRY, CIRCLING ARCADES OF THE PLEASURE CENTRE OF ANCIENT VERONA

Taken from an adjacent high building, this photograph reveals in all their majestic beauty the stately proportions of the amphitheatre of Verona. Unadorned by any suggestion of Hellenic inspiration in its architecture, it is thus all the more impressive to-day in its ruined state. The arcades, built up of large blocks, are simple to the point of austerity, but their effect on the eye is very pleasing, as they stretch one above the other in a perspective whose effect is rather enhanced than otherwise by the fact that several of the arches of the second storey do not quite conform in size with their neighbours. Before the amphitheatre lies the Piazza Vittorio Emanuele and behind, the streets run towards the Adige.

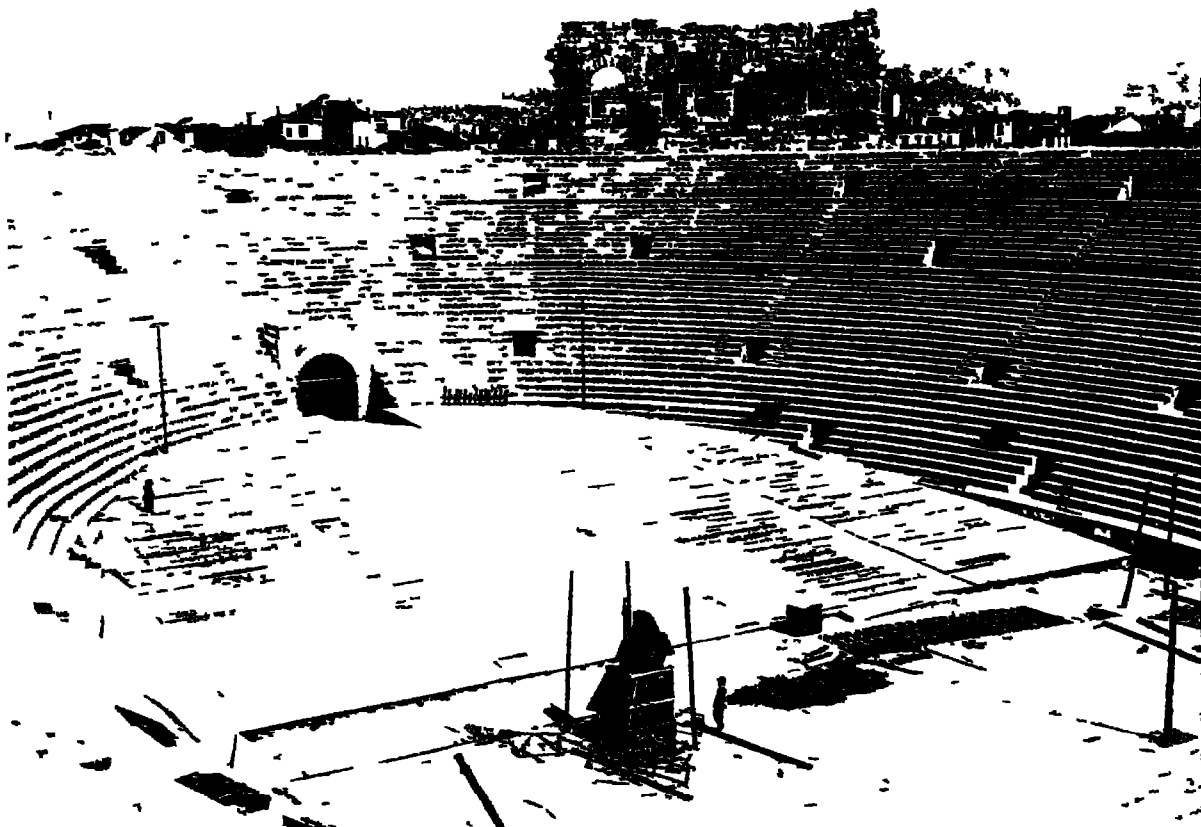
Photo by Allinari



WHERE GLADIATORS FOUGHT TO THE DEATH IN ROMAN DAYS THE AMPHITHEATRE OF VERONA

Here is shown on the right the remaining piece of exterior wall seen in the left background in the opposite page, and though the view is too close for a general impression of the proportions of the building, a good idea of its exterior detail may be gathered. Piercing the beautifully curving inner wall which is virtually complete are the great arches, set one above the other that give light to the corridors behind them, between the inner and fragmentary outer wall a remnant of one of the peripheral corridors may be seen on the ground level.

Photo by Anderson



VERONA'S WONDERFUL MONUMENT OF THE EMPIRE

Best preserved of all the Roman amphitheatres as to its interior is that of Verona in North Italy, its proportions are particularly fine and reflect a more cultured art than is found in the colossal Flavian amphitheatre in the capital. Dating from the first century A.D. it is built in the latest style and measures 502 feet long by 401 feet broad and 98 feet high. The "cavea" or capital interior lined with seats of brown limestone is nearly perfect, having been used for tournaments in the Middle Ages, but only one piece of the outer wall, consisting of four arcades remains (in the background above).

From the D. Wall Metetr.

That part of an amphitheatre devoted actually to combats came to be known as the "arena" because normally it was strewn with sand (Latin "arena," sand). Blood is readily absorbed by sand. Some emperors, however, eager to heighten the baser attractions of the entertainments they provided, deemed sand too commonplace a substance for the purpose, and at the Colosseum costly powders were often scattered on the floor, sometimes even gold dust. And, that the air might be kept fresh and clean, fountains shot aloft cooling sprays of perfumed water. A wall, so smoothly built that no wild beast could scale it, divided the arena from the "cavea," where sat the spectators. Such a wall formed a feature of all the amphitheatres, and as an additional precaution a metal railing also was usually provided. At the Colosseum there was a ditch as well. The arena of the Colosseum moreover was so designed that it could be quickly flooded. This was a refinement possessed by no other amphitheatre. Even at

the inauguration shows the Emperor Titus was able to vary the monotony of the proceedings by the introduction of "sea fights."

In several of the great amphitheatres may be seen the remains of subterranean vaults. The amphitheatre at Capua is a case in point, that at Pozzuoli is another. Under the Colosseum is to be found a remarkably elaborate system of passages and chambers. From these, by means of ingenious movable platforms, gladiators and beasts could be raised through trapdoors into the middle of the vast arena.

It was usual for the cavea of an amphitheatre to be split up into several galleries concentric with the outer walls. The gallery nearest to the arena, the "podium," was the place of honour. Here in a provincial amphitheatre sat the leading personages of the town and the giver of the entertainment. Here at the Colosseum sat the Emperor, the senators and the chief officers of State, here too (prior to A.D. 394) sat the Vestal Virgins,

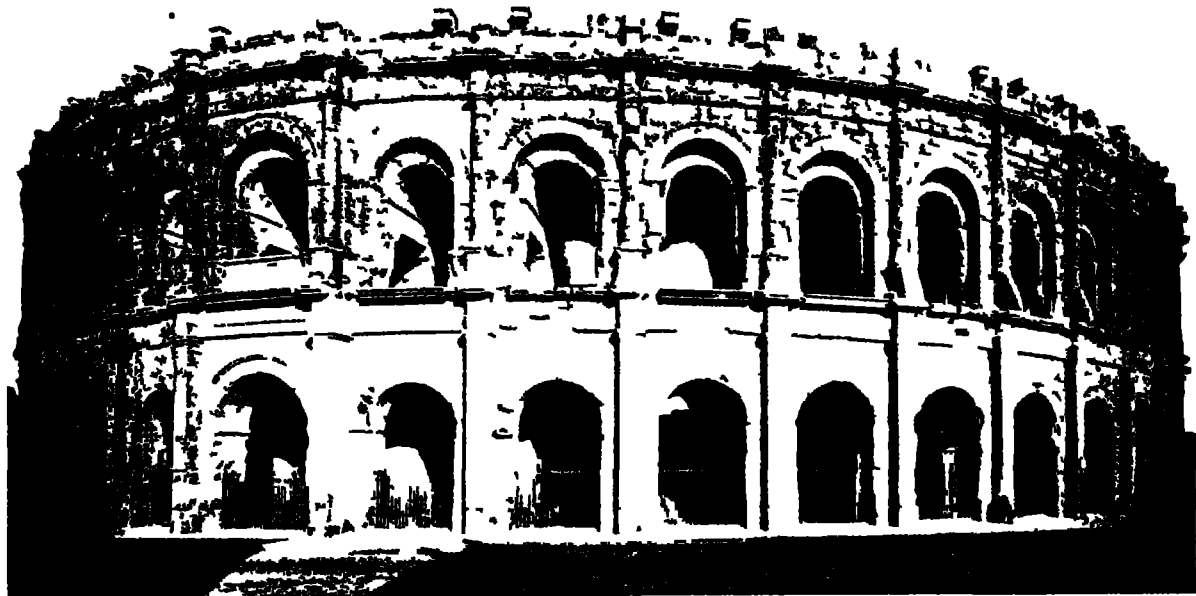
custodians of that sacred fire which Aeneas was supposed to have brought to Rome from Troy. Above the podium, and extending right round the building, were three other great galleries divided vertically by stairs into wedge shaped blocks and separated one from another by terraces and walls. The lowest of these was reserved for members of the equestrian order—the knights. In the others sat people of less degree, row above row—thousands and tens of thousands of toga-clad men, some with wives or daughters, some with sisters, some with sweethearts, assembled in that place—for what? To see a score of their fellow men meet death, perhaps a hundred if they should be lucky. And above them, again, standing on the portico over the topmost gallery, those who could not find seats, many thousands more, eager for the same sight.

A procession of gladiators opens the proceedings, then the testing of weapons by the giver of the show, then the customary sham fight—tedious preliminaries. Many find the programmes of greater interest, in them are set out particulars of the coming fights and the names and records of the combatants. Ah! Pugnax, in the Thracian arms, drawn with Murranus fighting in the arms of Gaul! A well matched pair! Which of them will win? Will one or the other die? Or

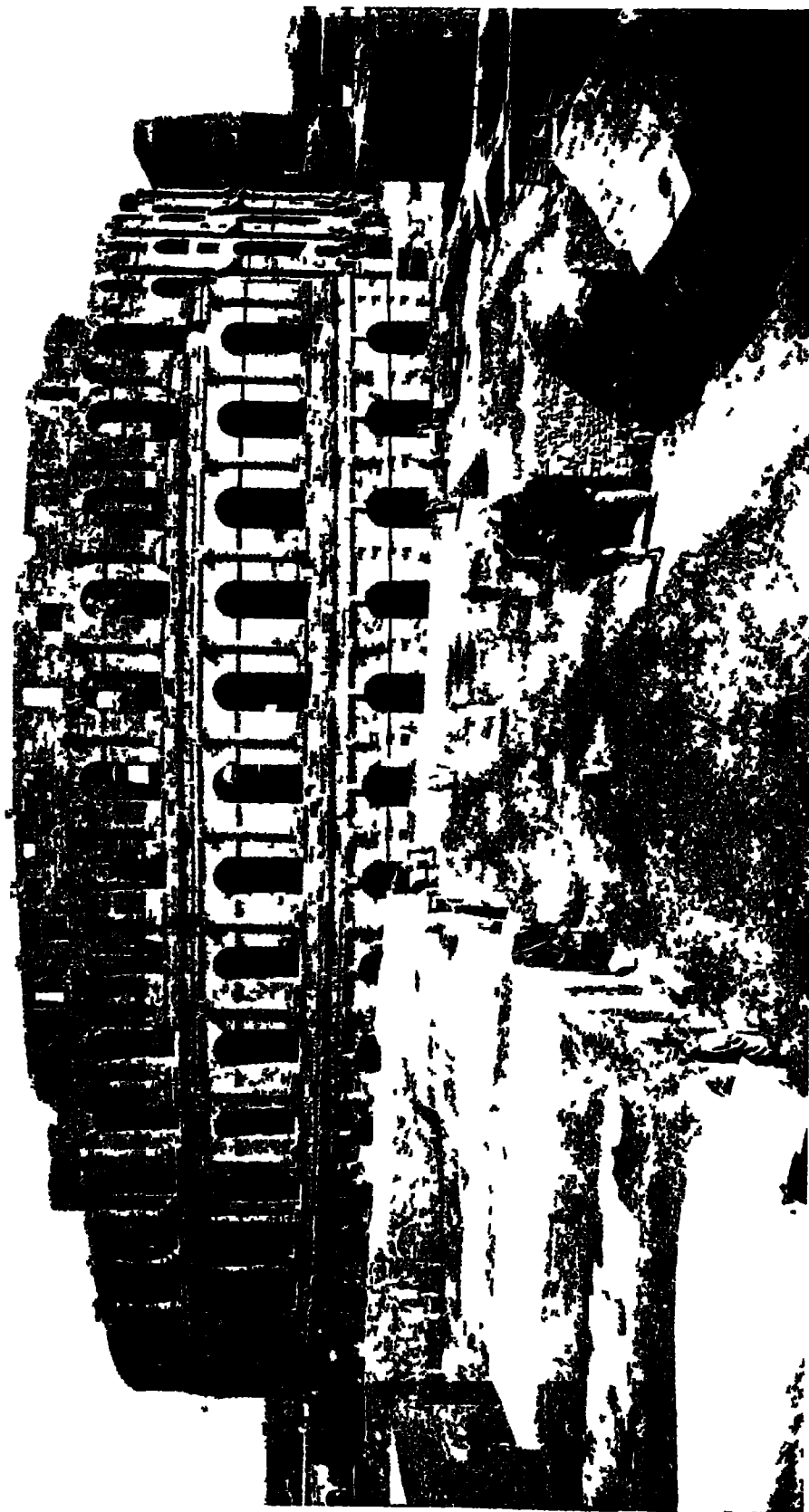
will the crowd show mercy to the vanquished? These are questions anxiously debated.

Suddenly a trumpet blares and blares again. It is the signal for the fighting to begin. Pugnax is already in the arena. Now comes Murranus. The dense throng watches his movements, spell-bound. Sword clashes upon sword! Then "Habet!"—'wounded!'—a great cry goes up from the assembly. "Habet!" it echoes round the arena. And Murranus, blood streaming from a gash in his side, reels to the ground. The stricken gladiator raises himself feebly on one elbow and extends a forefinger. He is asking for mercy. It is for the spectators to grant or refuse his appeal. How will they decide? Will they turn their thumbs downwards and so sign to Pugnax to spare his victim, or will they point their fingers to their breasts? Or will they wave their handkerchiefs? This according to some authorities was the token of mercy, the turning down of thumbs the token of death. It is strange that scholars should not yet have settled this question for us. They still debate it and still agree to differ. But what does it matter? Murranus, if spared, is only spared that he may die another day.

Attached to most of the big amphitheatres were schools for gladiators managed by the State. Many individuals, at great profit to themselves, also conducted such schools at the smaller

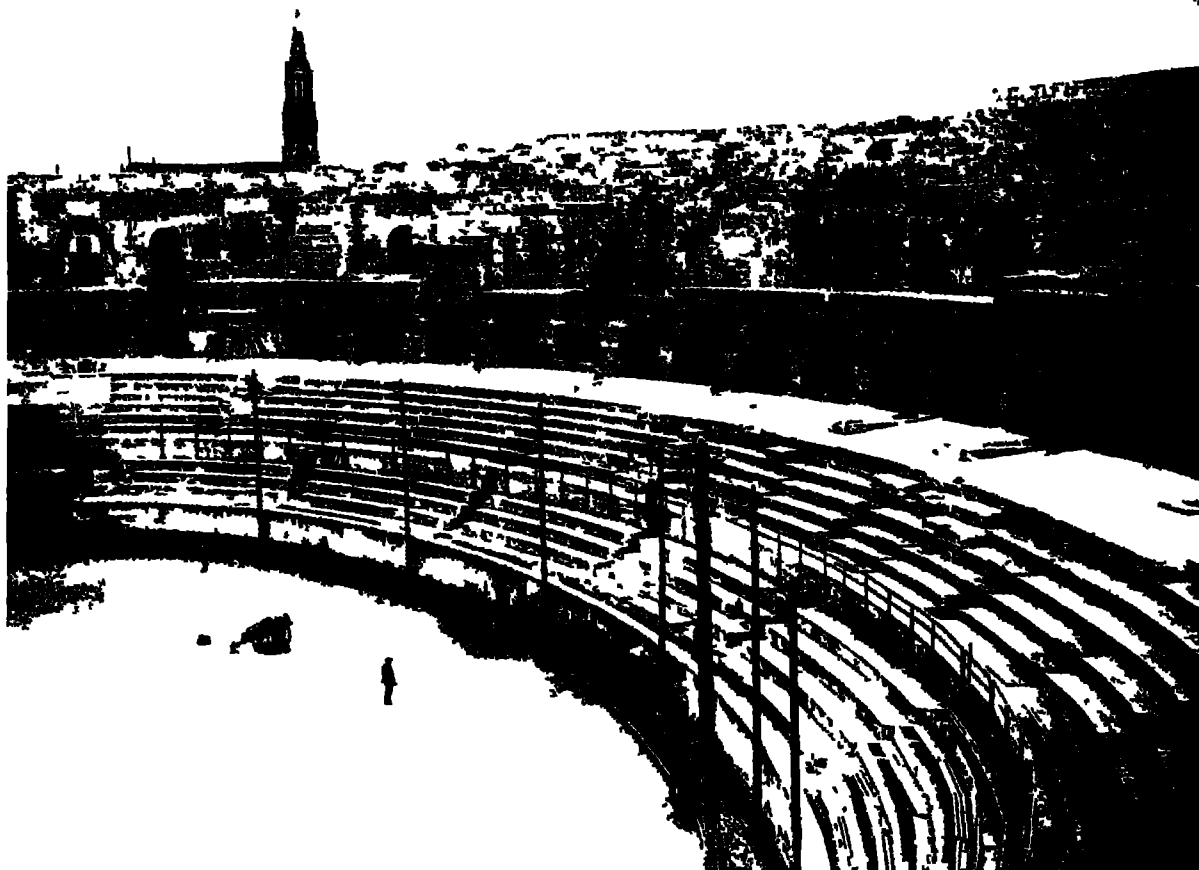


VAULTED ARCHES THROUGH WHICH ONCE ECHOED THE CLASH OF STEEL AND THE CRY OF DEATH
Nîmes, the ancient Nemausus, came under the sway of Rome in 121 B.C. and became the chief city of one of the "colonies" of Gaul. Nestling near the foothills of the Cévennes, it was always a favourite city of the Romans and their great delight lay in its adornment, many temples were raised (of which the "Maison Carrée" is an outstanding example) and built a theatre, a huge aqueduct, of which the Pont du Gard (see pages 208 and 209) is the glorious relic and the great amphitheatre illustrated here. No other city of France can boast such a priceless legacy from the great craftsmen of the Eternal City.



EXTERIOR VIEW OF THE GRANDLY IMPRESSIVE AMPHITHEATRE OF EL DJEM

Wherever Roman civilization penetrated it left an imperishable imprint in the monumental buildings it raised, thus is it that in the almost deserted region of El Djem in Tunisia stands this magnificent ruin like the mighty guardian of a squalid Arab village beside it. Built about A.D. 240 of limestone it consists of three arcades crowned by a fourth storey of windows, the first and third arcades are Corinthian, the middle composite. Its measurements are along its greatest axis 498 feet and along the shortest, 406 feet. The staunch nature of the building is well seen in the photograph on the right the outer wall has been broken doubtless by later builders in search of material for their mean erections.



THE AMPHITHEATRE OF NIMES BUILT IN THE ORNATE STYLE

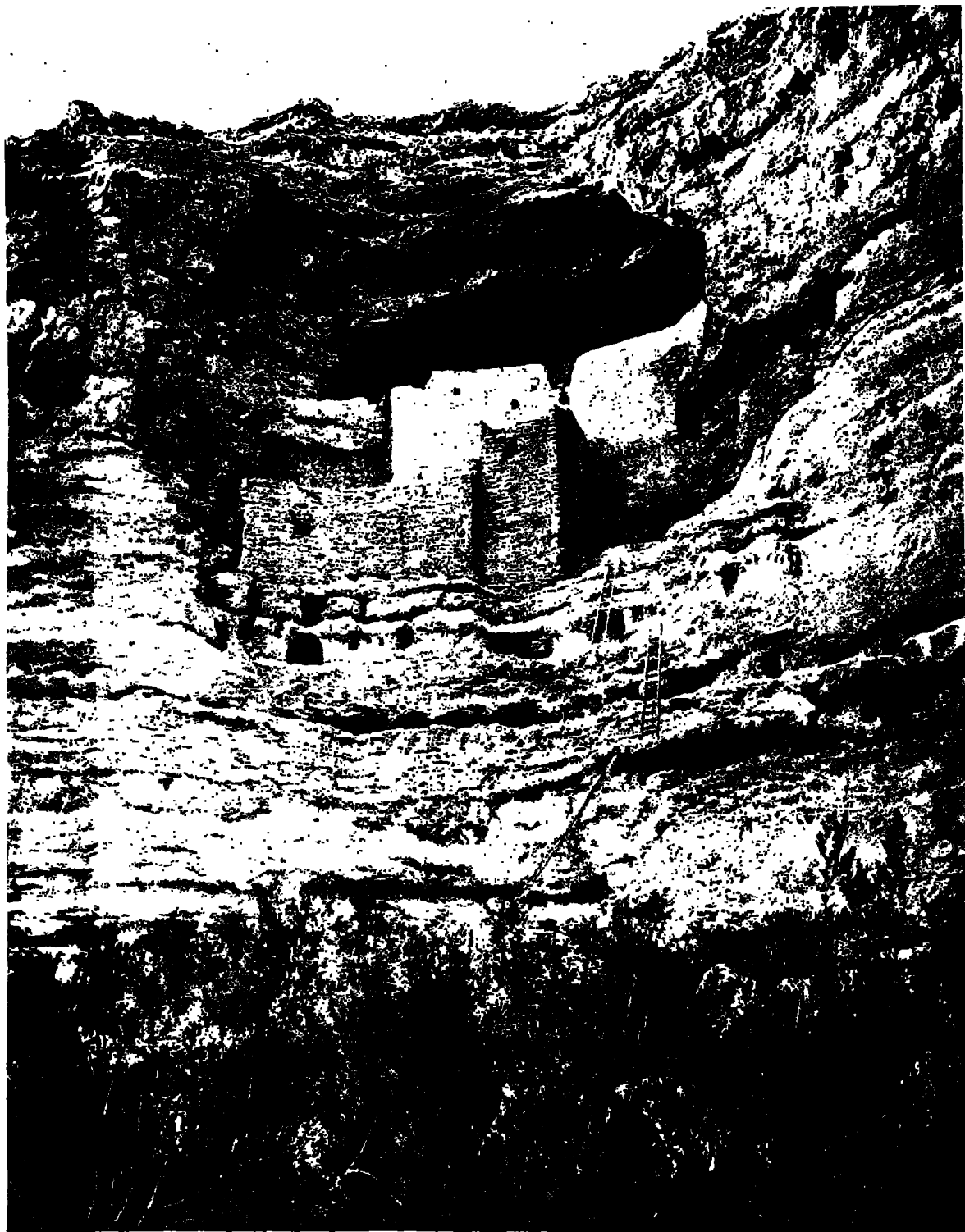
Though smaller than the buildings at Rome, Verona, Pola, Arles and El Djem, the amphitheatre of Nîmes is better preserved than any in its exterior walls. Its major and minor axes are respectively 145 and 115 yards in length and it rises in two "storeys" profusely ornamented with pillars. Over each column the line of the entablature is broken by a projecting capital and pediments are found at each end. Illustrated here is the interior in which are 34 tiers of seats rising in four "maeniana" from the podium. The capacity of the cavea was 20,000 spectators who entered or left the building by 124 vomitoria.

provincial cities there was a constant demand for itinerant gladiators. Though well fed and well cared for (the farmer cannot afford to treat his cattle badly) the pupils in these schools were subjected to a rigorous and terrible discipline. Of the sixty-three bodies of gladiators found among the ruins of the school at Pompeii many were in chains. Precautions had to be taken by those in charge lest these professional fighters should anticipate by self-destruction their inevitable end. After all, they were recruited largely from slaves and criminals reprieved from sentence of death.

But not all of them were the dregs of society. Many a young man of birth and education was lured by the false glory of the arena to adopt this hideous calling—even senators and noble ladies. Several of the emperors, moreover, delighted in gladiatorial exercises, and at any rate one of them, Commodus, actually appeared in the arena. The life of a gladiator had its compensations. The mob, in all ages, is ready to make a hero of the man who excels in feats of physical endurance, and the Roman mob was no exception. To the

successful gladiator it accorded a notoriety unknown even to the professional athlete who lives in these days of cinemas and illustrated papers. His name was on everybody's lips. His exploits were widely discussed. His portrait was multiplied on innumerable rings, lamps and vases. Great ladies only too often contended for his favours. Many gladiators, again, were prisoners of war, gallant "barbarians"—men like Spartacus, the Thracian, who led the great gladiatorial revolt of 73 B.C. and for three years defied the legions of Rome, men like those who stood by Antony after Actium. Caesar's rival, Cleopatra's paramour, deserted in the hour of defeat by all his friends, could count at least on the loyalty of the gladiators he had enrolled to celebrate anticipated victory.

Sometimes it happened that gladiators had to be urged into the arena by whips and hot irons. The majority, however, learned to die like men, and have handed down to us an imperishable tradition of spirit and dignity—"Ave! Imperator, morituri te salutamus!"—"Hail! Caesar, about to die we salute thee!"



SAFETY FOR THE HOUSEHOLDER BOUGHT AT A HEAVY PRICE

Preeminent though Colorado may be with its unrivalled settlement of Cliff Palace, undoubtedly the most imposing single cliff dwelling to be found is in the State of Arizona. Situated on two ledges in the cliff face of Beaver Creek, it is known as Montezuma's Castle, although it can boast no real connexion with that unfortunate Aztec prince; 42 feet of vertical limestone separate it from the point where the cliff begins to slope towards the bottom, and it is built in five storeys. It is now a national monument.

The Cliff Dwellings of America

By H. J. Braunholtz, M.A.

Of the Department of Oriental Antiquities and Ethnography, British Museum

CAVES and cliff recesses have been regarded as a natural solution of the housing question in many countries and at many periods ever since the Palaeolithic Age, and the troglodytic habit still persists in the heart of civilized Europe to-day. But there is one region in the world which may be considered as par excellence the home of the cliff dweller. This is the lofty plateau in the south-west of the United States, comprising part of the four states of Colorado, Utah, Arizona and New Mexico, and embracing the three great river systems of the Colorado, Rio Grande and Gila-Salt which lie near its periphery and almost surround it. Rich as this region is in natural marvels such as the Grand Cañon and the petrified forest of Arizona, it is hardly less remarkable for its archæological treasures. It is literally covered with the ruins of generations of former inhabitants.

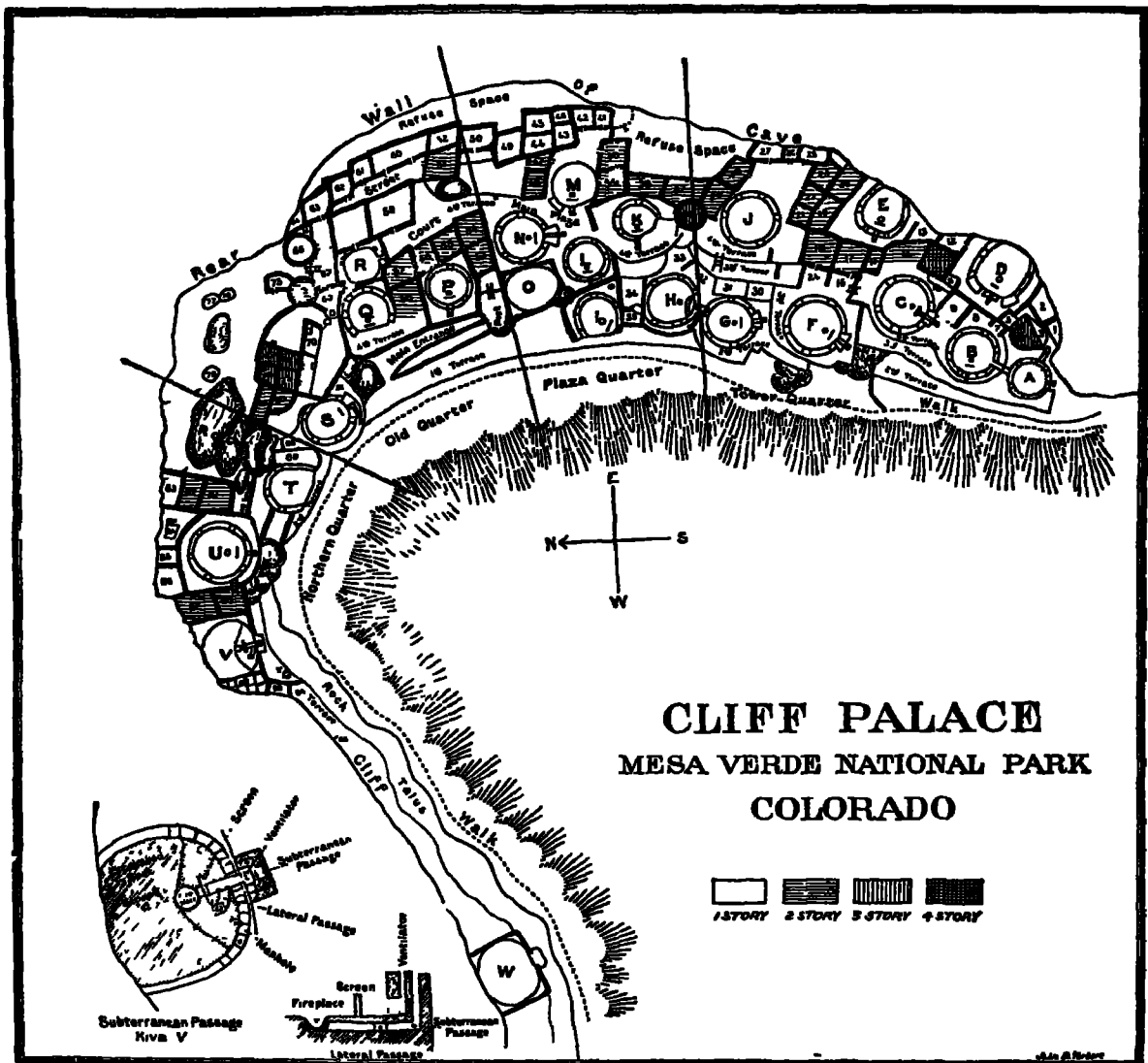
The plateau averages more than 6,000 feet in height and is fringed by still loftier mountain peaks. Actually, it consists of a series of platforms at varying levels terminating abruptly in sheer cliff walls. Some of these platforms, or "mesas," rise out of each other in a succession of huge terraces; others stand out like flat-topped islands 2,000 feet and more above the surrounding plains, cliff-girt on all sides. The upper tributaries of the three great rivers have carved deep into the soft stone of the mesas, scaming them in all directions with narrow gorges or cañons. Here in these remote mountain solitudes the former homes of the cliff dweller are to be found, all of them untenanted to-day. High up in the cliffs on either side, precariously perched on narrow ledges of rock or half hidden in dim recesses, may be seen walls of masonry, some of them crumbling to ruin, but still visibly the work of human hands. At times you are inclined to doubt your eyes, so inaccessible do they seem. Often they can only be reached by the aid of ladders and ropes; their construction, the transport of the building materials to such sites, must have entailed prodigies of labour.

Cliff dwellings are not, however, all of this kind. They have been classified broadly into two distinct types: cliff houses, properly speaking, and cavate dwellings or lodges. The former are genuine

houses, or clusters of houses, built into natural hollows in the side of the cliff; the rock may furnish their floor, and sometimes also their roof, but their main structure is of masonry. The latter, on the other hand, are artificial caves carved out of the softer layers of rock, or elaborations of natural caves. Those found in the Verde Valley in Arizona are entered through a narrow tunnel which leads back into a large chamber connected by passages with smaller rooms. In some of these cavate dwellings masonry has also been used as a supplementary device to partition off rooms or wall up a front entrance if too wide. A rigid line of demarcation cannot be drawn; there are numerous transitional forms. The relative hardness of the stone probably determined the builders' choice as between these two types, which appear to be contemporaneous; only the softer kinds of rock could be conveniently excavated with stone tools. It is instructive to find that in the Mancos Valley, where cliff houses prevail, cavate dwellings also occur wherever a local outcrop of softer shale permits of their construction.

The upper valley of the Rio Grande, in New Mexico, is richest in the cavate type, which is the only one found here; the cliffs of the Jemez Plateau fronting the river are literally honeycombed with these tunnellings, resembling a gigantic rabbit warren. In Arizona, in the region of the Rio Verde, a tributary of the Salt river, numerous cliff dwellings of both types are to be found. Of the cliff houses the most striking, perhaps, and certainly the best known, has been called, somewhat inappropriately, "Montezuma's Castle." It stands high up in a vertical limestone cliff, 42 feet above the slope below, and consists of five storeys rising from two ledges which are only accessible by means of ladders.

Rich as these two regions are in cliff dwellings, they are surpassed by the drainage area of the San Juan river, a tributary of the great Colorado. This is the "Region of the Four Corners," so called from the fact that here alone four of the States meet at a point. In one of these, the south-western corner of the State of Colorado, stands the Mesa Verde, a typical cliff dwelling district. It was first thoroughly explored in 1891 by the



CLIFF PALACE

MESA VERDE NATIONAL PARK

COLORADO

1 STORY 2 STORY 3 STORY 4 STORY

Courtesy of the Smithsonian Institution

Swedish archæologist, Baron G. Nordenskiöld, whose monumental publication marks an epoch in the study of the subject.

Rising to a height of over 8,400 feet with its flat wooded top tilted very slightly to the north of west, this plateau appears from a distance like a solid, unbroken mass of rock. On entering it, however, along the valley of the Mancos river which divides it into two parts, we find that it is cut and seamed into a perfect labyrinth of cañons and gullies ramifying from the main river valley. These gullies are flanked by lofty cliffs of yellow sandstone, from the bases of which steep slopes of talus or "scree" run down to the beds of the streams. At their upper ends they terminate abruptly in natural amphitheatres of rock. Water only flows in the streams in the rainy season when their dry courses are converted suddenly and momentarily

into raging torrents. But water is never far beneath the surface, and springs are frequent.

Numerous caves have been "weathered" out of the softer stone, varying in size and shape from small niches to mighty vaults. As we make our way up any of these tortuous cañons—not always an easy matter on account of the rocky boulders which choke their bottoms—we are astonished to find the cliff caverns occupied by buildings as various in size and shape as the caves themselves, ranging from single cells, used no doubt as granaries, to whole clustering villages. Some are poised dizzily, like human eyries in the rock. Many however, are not quite as inaccessible as they appear, and can be reached by a rough scramble either from the valley or from the mesa top; often the approach is by way of rock-cut steps, fashioned by the builders and now almost worn away, but



IN THIS CLEFT OF THE CANON SIDE MEN ONCE DWELT

Here and hereafter in considering Cliff Palace, that marvellous cliff town in a cañon-side of the Mesa Verde, it will be of help to refer to the plan in the opposite page. This photograph, for instance, is of the southern end, known as "Tower Quarter"; the round tower from which it takes the name (No. 36 in the plan) may here be seen on the left, while the circular "kivas" visible to the right of it are those marked A to C and F to J. The figures of the party in the centre will give the relative size of the houses.

Photo by Underwood Press Service



CLIFF PALACE, A WHOLE TOWN BUILT SECURE FROM MOLESTATION IN A CAVE

A closer and more detailed view of Cliff Palace than in the previous page is here given. The photograph is of the "Plaza Quarter" to the left of the round tower which may be recognized again on the right. In the foreground the cliff slopes down abruptly to the dry bed of the cañon cumbered with hills from the cliff above is the rock-sealing—a solid 50 feet to the mesa top, tree clad but free from flowers and undergrowth owing to lack of water. It is this dryness that gives a clue to the social conditions of the people who built such astonishing dwellings. Their strange houses can never have been intended to stand long sieges, but rather intermittent raids from neighbouring and less sedentary tribes.

Photo by Underwood Press Service

still clearly visible and offering a practicable means of ascent in parts to an active climber. "Cliff Palace" and "Spruce Tree House," the names by which two of these buildings are known, are the largest and most remarkable of their kind, though they are almost rivalled by "Betatakin" and "Kitsiel," two similar buildings in the Navaho Reservation to the south-west. The Mesa Verde is now preserved as a national monument, and these two amazing structures have been restored under the supervision of one of America's leading archaeologists, Dr. J. W. Fewkes, Chief of the American Bureau of Ethnology, who has written monographs on the subject. The restoration in this case consisted in clearing away the rock debris and strengthening the walls to prevent further disintegration. This was necessary to preserve them from the ravages of time and from the vandalism of curio hunters at whose hands they had already suffered much irreparable damage.

"Cliff Palace" was discovered in 1888 by Mr. R. Wetherill, whose intimate acquaintance with the whole region has been of invaluable service to archaeologists. The first extended account we owe to Mr. F. H. Chapin, who thus describes his first impressions:

"At about three o'clock we reached the brink of the cañon opposite the wonderful structure. Surely its discoverer had not over-stated the beauty and magnitude of this strange ruin. There it was, occupying a great oval space under a grand cliff, wonderful to behold, appearing like an immense ruined castle with dismantled towers. The stones in front were broken away, but behind them rose the walls of a second storey; and in the rear of these, in under the dark cavern, stood the third tier of masonry. Still farther back, in the gloomy recess, little houses rested on upper ledges. A short distance down the cañon are cosy buildings perched in utterly inaccessible nooks. The neighbouring scenery is marvellous; the view down the cañon to Mancos is alone worth the journey to see." This stupendous building contains 117 rooms (including "kivas") on the ground floor alone and covers an area of over 400 feet in length and 80 feet in depth in the wider or central portion.

The structure is very irregular in plan; like all cliff houses it follows the contours of the cavern in which it stands. Moreover, it was clearly not designed by a single master hand, but has grown to its present size by accretion at various periods. Nevertheless, it follows the general principles of construction noticeable in all the larger houses. In front are three terraces excavated from the talus slope; here are the "plazas," open spaces with level floors, where the inhabitants forgathered

socially around open fires. Behind and above rises the building itself in a series of tiers, four storeys high in places. It consists of a number of smallish rooms more or less rectangular in shape and grouped in clusters partly separated by open courts. The masonry is neatly dressed, the stones cemented with clay in regular courses and the joints "broken"—an unusual feature in cliff houses. Retaining walls were built and the foundations skilfully adjusted to the uneven surfaces. In some buildings the walls have actually been "anchored" by poles sunk in holes drilled into the rock floor. But the architects had not learned the art of bonding their walls at the corners, and they were ignorant alike of the principles of corbel and arch.

The ground floor compartments have no exterior doors and were apparently used for storage. The upper storeys are pierced with small windows and often with T-shaped doors. Similar doors may still be seen in modern pueblos as the curious conglomerate villages of the aborigines of Arizona and New Mexico are called, from the Spanish word. These doors are designed on principles of the strictest economy, the lower part being just wide enough to admit the legs, the upper part broader so as to allow passage for bundles of wood or other packages as they were carried in. The upper storeys were reached either from inside by ladders leading to hatchways in the floors, or by means of balconies which originally projected in front of the doors. The roofs were of timber covered with brushwood and bark, and a hard, even layer of clay pressed down over all. These were the ordinary living and sleeping apartments; some of them were set aside for special occupations of the womenfolk, such as grinding corn or making pottery. A room was found with the grinding stones still in position; from it a small peephole looks out on to a courtyard, so that the women might be able to observe passers-by as they worked.

Many of the rooms have fireplaces, for the wind blows cold here in winter and frost and snow are common. The walls are plastered inside and out with clay in which impressions of small human hands may still be seen, showing how the work was done. There were no chimneys and the walls and roof of the cave are blackened with smoke. At the back of the building are open spaces; and it appears from the deposits of guano that these were the quarters of the domesticated turkeys which these people kept.

The most peculiar and characteristic feature of these cliff houses remains to be mentioned. This was the "kiva," or "estufa" as it was originally called under the misapprehension that

it corresponded to the medico-religious "sweat house" of the Navaho and other Indian tribes. These kivas are circular subterranean rooms, built underneath the plazas or terraces in front of the house. Such rooms form an integral part of every cliff house of any size in this region; "Cliff Palace" has twenty-three of them. They are now exposed through the collapse of their roofs, but in their original condition they were invisible from outside, except for a small opening in the plaza floor from which, perhaps, a ladder projected as in the modern pueblo.

They are generally about 6 feet deep and 15 to 20 feet in diameter. All round the sides, at a height of about 2 feet, runs a ledge or banquette divided into alcoves by six pilasters. These pilasters supported a timber roof in which each layer of beams was placed diagonally across the corners of the layer beneath so as to produce a kind of shallow vault. In the centre of the floor was a fire pit and at one point an L-shaped ventilating shaft entered the room at the floor level. Between the opening of this shaft and the fire was a low screen or deflector, apparently for the purpose of distributing the inflow of air evenly about the room and preventing the fire from being blown about by the direct draught. The

walls were carefully plastered and often ornamented with a kind of dado in colour. Sometimes a tunnel connected the kiva with one of the ordinary rooms, but the main entrance was probably through the roof.

Such were the ceremonial chambers in which the religious life of the clans centred. They were reserved for the men, and served at once as temple, council chamber and club house. In them at festive seasons sacred dances were performed; at other times the men would meet there to gossip or work at their looms. Such, at least, is the inference that may fairly be drawn from analogous chambers of the pueblo peoples. There is in the kiva one diminutive but important feature which emphasises the link between kivas ancient and modern. This is a small hole situated near the fire-pit and opposite the deflector. It is invariably present in modern Hopi kivas and is called by them "sipapu." According to Hopi mythology the human race was created deep down in the earth, whence it emerged, struggling ever upwards by four stages of ascent, into the light of the present world. The sipapu symbolises the orifice from which mankind emerged, and is a means of communication with his Creator. It is the most sacred part of the kiva. Buildings



PERCHED ABOVE THE TREE-TOPS: SPRUCE TREE HOUSE

In Colorado the next largest settlement after Cliff Palace is Spruce Tree House; it is in the cañon of the Mancos river on the borders of New Mexico and not very far from Cliff Palace. The country, however, is better watered as may be seen from the more luxuriant vegetation, and from the tree-tops on the left, which suggest the height above ground of the houses. These last are seen to be in a somewhat more ruinous condition than those at Cliff Palace, which some years ago was carefully restored.

Photo by Underwood Press Service



WHERE THE CLIFF DWELLERS GATHERED FOR RITUAL AND DISCUSSION

The strange "kivas" of the cliff dwellings of which some are mentioned as being visible in page 1207, are well illustrated by this photograph of the interior of Spruce Tree House showing two of them at close quarters. A typical plan and section also appear in page 1206. The kiva was a circular pit approached by a hole in the now vanished roof. In the centre was a fire pit and round the wall a low bench, at one point a ventilating shaft entered at floor level and between it and shaft was a screen for their purpose they were apparently used for gatherings partly religious and partly social only in the latter admitted to them.

Photo by C. L. Bunn by permission of the National Park Service, U.S.A.

such as "Cliff Palace" were occupied by a congeries of small clans each with its own kiva hence the number of kivas in a building would indicate roughly the number of clans who inhabited it. In nothing is a people generally more conservative than in its religious institutions and it is probable that the kiva points to an earlier nomadic stage in the history of these people when they dwelt in circular huts or tents.

The cliff dwellings impress us by their romantic situation and wonderful adaptation to a difficult environment. Their very irregularity lends them a kind of barbaric grandeur but they were clearly not constructed to please the eye. They were the expression of the religion and sociology of their inhabitants in their kivas and clannish clusters of rooms. Partly, too, their form was dictated by the force of environment. Unable to build outwards owing to the limited floor space, the architects were compelled to build upwards thus

the same force which has produced the modern skyscraper may here be seen at work in the same continent but on a smaller scale.

Much may be learned about the life of this folk from the relics which have been found in their buildings. The climate is extremely dry and a layer of powdery dust the excavator's "bête noir" as it rises in choking clouds at the touch of his spade has acted as a wonderful preservative. Bodies have been found where they were buried—for both burial and cremation were in vogue—perfectly desiccated retaining the skin, nails and hair. Even such perishable objects as baskets and textiles still rest unrotted where they were last dropped to attest the craft of hand and eye of their makers. We find that they made sandals and stout cord from the yucca plant stripping the tough fibres from its tapering leaves. They wove warm winter clothes of cotton and lined them with the feathers of their turkeys. Rarely

has a primitive people excelled them in the making of pottery vessels or shown such simple taste in the patterns with which they adorned them. In their vessels for cooking and storing water, often of immense size the womenfolk turned technique to decorative account by making the coils overlap each other as they wound upwards. This is called 'corrugated' ware and is one of the specialities of the cliff dwellers. But the finest vessels, bowls with which they paid a last pious tribute to their dead, were not only perfectly rounded without the aid of the wheel but had the additional charm of patterns in the form of steps, meanders, spirals and other symbols in black and white. Among their fictile products were also comely mugs with handles and well shaped ladles.

They were a Stone Age folk. Well-worn grooves in the cliff walls show where they ground down their stone axes and sharpened their awls of bone. It is truly amazing to reflect upon the labour involved in felling trees and cutting up the timber for roofing with such tools. The ends of the roof beams are never clean cut: they plainly show how they have been worn painfully away as it were, by the slow process of chipping and pecking. But if it cost them labour to shape their stones and cut their timber, what of the toil of transporting these materials down cliff faces and along rock ledges to the sites of their homes? This is

something that almost passes belief. Agriculture was their staple industry and their main source of food. They raised crops of maize and also beans and gourds, husbanding the water in reservoirs and irrigating the steep slopes with ditches.

Why did this folk set their homes in the cliffs? Why build at such cost, and make their "exits and their entrances" so arduous as they "clasped the crag with crooked hands" and performed daily feats of rock climbing? No people has greater need of defence than an agricultural community, with its stores of food and relative wealth, set amongst nomad hunters (such as the Navaho and Apache were formerly) poorer but more virile through their mode of life. Always the fringes of agricultural regions have suffered from the predatory habits of nomad neighbours. It was this condition which produced the Great Wall of China, may not cliff dwellings have had their origin in the same way? If we look at a dwelling like "Eagle Nest House" we can hardly doubt that defence was the motive for selecting such a site. Strong arguments have been brought to bear against the defensive theory and the matter is still in dispute. Some of the buildings appear to have been mere farming outlooks, some of the more inaccessible of them were perhaps only used as a temporary resort during moments of danger. One of the main arguments against the



WHERE THE CLIFF DWELLERS SACRIFICED TO SOME FORGOTTEN GOD

Before one of the cliff settlements in Colorado lies this great ornamental sacrificial rock. The markings on it—zigzags, concentric circles and spirals—show how universal are the first springs of art all over the world: there is but little to distinguish them from the British rock carvings illustrated in plates 1133 to 1139. Similar ornamentation appears in the form of dados and friezes within the houses, while other decorative motifs may be seen on the beautiful pottery of the district reproduced in colour in the plate opposite.

Photo by Underwood & Peck Service



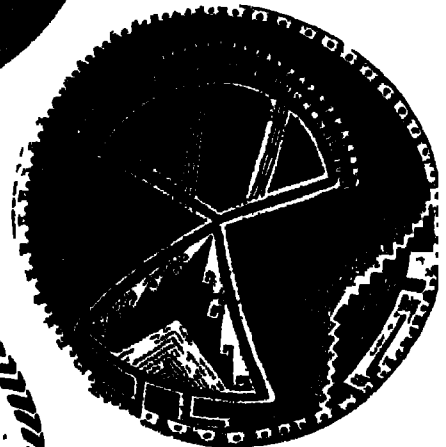
The food platter on the right comes from Four Mile Run, Arizona, and is painted with a well-known legend.



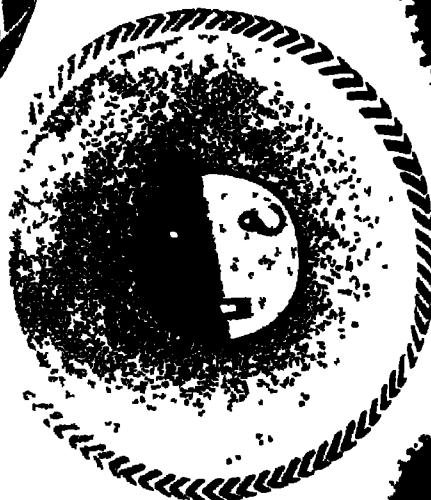
Two views, from above and from the side, of a beautiful vase from Tumblo Viejo, Arizona.



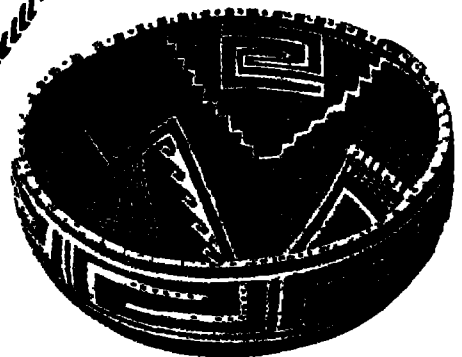
Vase from Four Mile Run, Arizona, with a stylized animal and human figure in the center.



A small, shallow dish or plate from Four Mile Run, Arizona, decorated with a stylized figure.



A small, shallow dish or plate from Four Mile Run, Arizona, decorated with a stylized figure.



PAULIUS POTTERY MANUFACTURED WITHOUT A MOUTH.

In this page are illustrated typical specimens of the pottery produced by the cave dwellers in the Southwest. The pottery is of the type known as Paulius pottery, and is characterized by its simple, rounded shape and its decoration with stylized geometric patterns. The pottery is of the type known as Paulius pottery, and is characterized by its simple, rounded shape and its decoration with stylized geometric patterns.

Article of the American Bureau of Ethnology.



HOUSES AND GRANARIES OF THE AMERICAN TROGLODYTES

In the upper photograph here we have the southern end of Cliff Palace viewed from the north set in a broad cleft of the cliff the houses climb upwards in terraces and in some cases reach a height of four storeys. The Mesa Verde lies in Colorado State but has no monopoly of cliff dwellings, the lower photograph for instance shows a well preserved example in Arizona State. The strange receptacle, shaped like a beehive or a swollen mushroom with a hole at the top served the inhabitants as a granary.

Photos by G. L. Bourn by permission of the National Park Service U.S.A. (top) and by T. H. Woodcock U.S.A. (bottom)

defensive theory is that the defenders could soon have been forced into submission for lack of water. But quite apart from the fact that springs exist in the back of many of these caves and that water could be stored in large jars and would keep fresh for many days in the pure elevated air these primitive peoples were never likely to have had to endure a long siege. It was sudden raids which they had to guard against, and for this purpose their dwellings were well chosen. Had an attacking force felt inclined to sit down to a regular siege its position would soon have been made intolerable by showers of stones and arrows from the cliffs above. Some buildings were actually provided with battlements and loopholes for arrows placed at such angles as to command all the approaches. In these at least the motive of defence is clear beyond question. If this view be correct, it also explains why the cliff dwellings were subsequently abandoned as increasing numbers inspired confidence. Climatic changes and a diminution in the water supply may also

have played a part. And it must be remembered that closely associated with the cliff houses are numerous ruins of similar construction both on the mesa tops and in the valleys below.

With a few exceptions such as the Canon de Chelly, these cliff dwellings must be regarded as prehistoric in the American sense, that is, pre-Columbian. No traces of European influence have been found in them in the shape of metal tools, trade beads or similar objects. Nor do the annals of the Spanish adventurers, who first penetrated this region under Coronado in 1540 and colonised it half a century later, make any mention of cliff



SAFE FROM ATTACK BY BEAST OR MAN

Near view of another cliff dwelling, in Walnut Cañon. These seemingly inaccessible houses were approached by means of wooden ladders or steps cut in the rock and could be easily defended. Their material is stone dressed small and cemented with clay. The roofs have now mostly disappeared but were made of timber beams cut painfully to shape with stone tools.

Photo by Underwood & Co. Service

dwellers. Upon the crumbling walls of one building called "Sun Temple" a tree showing 360 annual rings of growth has been found. The evidence is cumulative that these dwellings had been built and abandoned not less, and perhaps considerably more, than 500 years ago. Some of the pueblo peoples have traditions of having migrated from the north and of having dwelt in cliff houses in the past, and from the similarity of their culture in many significant details we may fairly conclude that some of the descendants of the cliff folk are living in the pueblos of the Hopi and the Zuni at the present day.

The Wonder Cities. XXXI.

Jericho and the Biblical Story

By John Garstang, M.A., D.Sc., Hon LL D., F.S.A.

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IN the article that follows is given an authoritative account of four years' archaeological digging on the site of ancient Jericho. Professor Garstang (who has also supplied the photographs that accompany the text) wishes me to add 'that the Jericho expedition was only made possible through the generosity of Sir Charles Marston, supported by the late Lord Melchett and Mr Davies Bryan and that the cost of the examination of the tombs was defrayed by the universities or museums of Paris, Brussels, Aberystwyth, Leeds, Liverpool, Glasgow, Oxford and Aberdeen where the objects discovered may now be seen. The European staff of the expedition was composed entirely of volunteers' —EDITOR

THE systematic excavation of ancient Jericho has been abundantly rewarded by rich archaeological material from both the necropolis and the city and by the new light thrown upon the varying fortunes of the place through a period in the Bronze Age of about 1000 years. But there is one aspect of these investigations which in most people's minds claims first attention—the bearing of the results upon the old Biblical tradition of the fall of Jericho before the Israelites under Joshua. This certainly is a problem of great human interest, and one of radical importance for students of the Bible. Everyone would like to know, and has indeed the right to inquire whether the excavations have produced any evidence bearing directly or indirectly upon this matter, and if so, whether the outline of the Biblical narrative is found to be circumstantially admissible, or even borne out in any material detail, or, on the other hand, is to be rejected entirely as contradicted by the observed facts. The completion of the excavations as originally planned has provided the material for a direct answer to these questions, and the following paragraphs are devoted chiefly to this aspect of the subject.

It may seem easy, especially from a distance, to dig out from a site the evidences of its

past, but in reality it is a highly complex, technical, and arduous task demanding experience, technical knowledge and unceasing watchfulness. The observer is groping in the dark; he does not know what he is looking for, and indeed often discovers what is least expected. He can be guided only by rigid adherence to certain principles of method and registration, aiming at the recording of everything observed, without preference or distinction for one class of object over another. In the ideal system he will note the position of an intrusive pebble on a house floor with the same precision as that of an inscribed tablet; the presence of both is due to human agency, and the writing upon the tablet tells only half the story. Excavation is now a science not to be embarked

upon without due training and preparation. In the view of the present writer confirmed by seven years' experience as Director of Antiquities in Palestine the claim for conscientious work is nowhere more essential than on the ancient sites of the Holy Land, and this applies not only to the methods employed but to the interpretation of the results.

Archaeology is the handmaiden of history and one of its main functions is to provide independent and reliable materials upon which historians can base their conclusions. It is therefore wrong in



BABYLONIAN RELIC FROM JERICHO

Perhaps the most striking of the few relics that have come to light of the Jericho of the Early Bronze Age is this bull's head carved in ivory. Closely resembling the bulls figured by the Babylonian sculptors, its technique is also distinctly Babylonian. It dates from about 2100 B.C.

principle to attempt to interpret archaeological discoveries by the light of historical records or traditions, whatever their source and origin. This confusion of issue leads inevitably to illogical conclusions; yet it is often seen, and lends itself to the unconscious presentation of facts in a way that harmonizes with preconceptions. The conscientious excavator will be particularly on his guard against this or any other loopholes for his "personal equation." The only sure way is to present the facts in their scientific nakedness; and only when this has been done, to compare with them the details of history or tradition.

These principles serve as a preface to the exposition of the discoveries at Jericho in this article. We shall first establish the facts, and leave the reader in a position to compare our conclusions with the extant Biblical traditions on the subject. If they agree, our interest in the tradition will be enhanced; if not, let there be no juggling with the materials or the record to make them fit. The inquiry in this case has a fundamental importance. Jericho, as everyone knows, was the first place to be captured and destroyed by the invading Israelites; if the discoveries deny the possibility of the story being correct in its essential outline, e.g. as to the date and nature of its destruction—as was indeed the verdict of the German expedition which formerly worked upon the site—then students would have an *a priori* reason for doubting the historical value of the subsequent narrative of Israel's fortunes in Canaan—apart from all questions raised by literary or textual criticism.

The fall of a city, its capture at the hands of an enemy, is usually evident from a layer or layers of ashes overlying the traces of the period of occupation, and telling of the burning of its houses. As a rule, such a city soon revived, its population returned, its houses were rebuilt upon the debris of the old ones, its fortifications were restored, and a new era commenced. Such episodes were familiar experiences in the ancient life of the Near East. Jericho, though from an early date stoutly fortified, was only small in size. It occupied a strategic position commanding the fords of the lower Jordan; but its economic outlook was restrained by the limited area of corn-land and pasture in that part of the Jordan rift, by the severe heat of summer, and by its very isolation, which, though assuring a relatively wide dominion, exposed it at the same time to the raids of hostile tribes, particularly from the east. Under such conditions, Jericho, though proof against robbers and local disturbance, has throughout history never been able to resist an organized invasion, and its ruins bear witness to all the bigger movements that swept the country while it endured as a city.

Four main epochs in its occupation are attested by that number of separate and successive periods of fortification. The earliest settlements of flint-using man lie deeply buried below the present surface level; even the rampart which was constructed in the Early Bronze Age can only be traced at intervals in deep soundings, at a depth of about 20 ft. Consequently it is not possible to say much about the civilization of this period, except that the walls were Babylonian in style, the bricks being thickly bonded with bituminous earth, and that the art was Babylonian in motive, as seen in the anthropomorphic pottery designs, and illustrated particularly by the small bull's head carved in ivory, which is not only Babylonian in technique, but represents apparently a Babylonian breed. This period of occupation is to be assigned to the last centuries of the third millennium B.C., say 2300–2000 B.C.; and corresponds, therefore, with the first Semitic dynasty of Babylon, the remote age of Hammurabi and of Abraham; so that the Babylonian connexions already mentioned are not without significance.

About 2,000 B.C. the site of Jericho was enclosed by definitely defensive ramparts, comprising a stout wall of brick, 12 to 14 ft. in thickness, supported by a thinner screen in front. The position was that which had been occupied from prehistoric times, a low knoll overlooking the abundant spring now called "Elisha's fountain." Centuries of occupation had already raised the level considerably, and the new fortifications followed for the most part the brink of the slope; but on the north and east descended so as to enclose the lower ground, including in the latter case the spring. Even with these extensions the area of the city was only about 8 acres; so that not more than 2,000 people could ordinarily have lived in it. As a matter of fact, the people of this district live for many months in tents, watching the crops and flocks, and this was probably the case in antiquity, when the walled city was looked upon as a refuge in times of danger. In other respects little can be said of this remote age: the city gateway was narrow and near the spring, and both these features were dominated by a massive guardhouse or watch tower, 60 ft. by 30 ft., containing three rooms, in the line of the city wall, just visible in the lower picture opposite.

About 1800 B.C., a date depending ultimately upon Egyptian chronology, the city of Jericho was re-fortified upon a more ample scale. The brick wall of the previous age was not entirely demolished, nor does the city show signs of a general destruction. Rather it seems to have been steadily expanding, for houses are found to have been built against the outer face of the old wall, and the new ramparts enclosed the whole mound including its slopes. The city of Jericho



DIGGING UP THE JERICHO OF LONG-DEAD YESTERDAY

In the lower photograph are seen the remains (some dating from the early Bronze Age before 2000 B.C.) of an ancient dwelling situated at the foot of the eastern tower, a brick structure on four rough courses of stone. In the room with a doorway in the centre foreground was found the ivory bull's head illustrated in page 1215. Above, the native diggers are busy excavating the complex of store rooms on the slopes below the palace. These date from the Hyksos period, about the 17th century B.C.; they were found below the occupation-levels of the 16th and 15th centuries B.C.



STORE BINS OF JERICHO'S HYKSOS OVERLORDS

Set in the floor of a number of the sixty-eight store bins some of which are illustrated in the upper photograph in the preceding page were found grain bins and jars containing charred remains of barley, oats and millet. The jars stood at a metre high and were apparently placed with their mouths level with the floor. Many had been sealed with the names of Hyksos chieftains and it seems probable that the structures were not only the royal treasury but a magazine wherein were kept provisions for the use of the Hyksos troops operating against Egypt.

now attained its maximum of about 12 acres, which was nearly as big as the contemporary cities of Jerusalem and Shechem the most important native centres upon the southern highlands of Palestine. From the standpoint of military architecture the defensive works at Jericho at this time are unparalleled comprising the three fold principle of glacis parapet and outer fosse which became so familiar in the defensive art of medieval Europe. The fosse was dug all round the foot of the mound and cut through the lime stone rock where this was encountered. The blocks so quarried were used for the construction of the glacis which lined the bottom of the slope and was some 21 ft in height. The largest blocks were not employed in the lowest courses, but at a height of 3 ft to 6 ft from the bottom, where siege engines might conceivably be brought into play, and at this level the separate stones were uniformly over a ton in weight. It was also remarked that the lowest courses of the glacis

did not stand upon solid rock but upon a bed of clay—a method of construction locally employed to mitigate the effects of earthquake shocks. The fosse, in the place examined was about 20 ft wide and apparently about 11 ft below the contemporary level of the ground. The defensive parapet upon the glacis was built of brick with little recesses at intervals, and was seemingly about man-height.

The expansion and elaborate fortification of the city at this time indicates a period of relative prosperity, and the suggestion is borne out by numerous "finds" both in the city and in the necropolis. The art is that of the Hyksos period, during which Egypt itself was over-run and governed by foreign people of that name and it is evident that Jericho

profited from the success of the Hyksos in their wars. Names of Hyksos leaders are found upon seals both in the tombs and the palace area of the city, suggesting that some of these personages both resided and died there. On the slopes below the palace, which occupied a dominating position in the middle of the city overlooking the spring, a vast complex of store-rooms came into being at the same time stocked with grain bins in which charred remains of barley, oats millet and sesame seem to be recognizable. Sixty-eight such store-rooms were examined layer by layer down to their foundations. Not all were stacked with grain jars, but all formed part of a vast emporium far surpassing the resources and requirements of the local king of Jericho—indeed, quite a number of the jars had been sealed after the fashion of the age in the name of Hyksos chieftains. It seems clear that Jericho served as a base for the Hyksos invasion of Egypt as well as for the administration of the area and that the store-

rooms uncovered in this excavation were used for military stores as well as for the royal treasury of the period.

Nearly all the rooms were found to have been damaged at various times by fire. The storing of grain in this way in confined spaces would probably tend to spontaneous combustion, and as a precaution it would seem the storage jars were buried at one stage below the ground, only their mouths appearing at floor level. The whole system was destroyed about 1600 B.C. by a general conflagration, an event which seems to have coincided with the demolition of the city's ramparts, though the evidence as to date in the latter case is not so complete as to warrant a definite conclusion. In any case, the store-rooms, or some of them, were reconstructed upon their original lines with their floor levels raised to clear the accumulated debris. Further extensive damage was done by landslide, originating presumably in an earthquake, which broke one of the main walls in two and brought the brickwork of this and other walls toppling down in large masses. This disaster was accompanied also by local fires

which completely charred and cracked the bricks and the contents of the surviving rooms and it seems to be dated by the relation of the pottery objects in the disturbed strata to the latter half of the 16th century B.C. No precisely dated single specimens were found among the ruins of this phase, but a comparison of the objects, and in particular the more distinctive specimens with the contemporary deposits from the necropolis provides the necessary evidence.

The tombs of the Hittite period were the most numerous and most complete of the whole necropolis. The characteristic type was like an artificial grotto, a subterranean chamber approached by a shallow shaft. Some of these were found intact and they contained a wealth of pottery objects in great variety of form, generally similar to the fragmentary specimens recovered from the palace store-rooms but by contrast in a relatively perfect state of preservation. With them were associated bronze objects, trinkets, and numerous scarabs of a style characteristic of this period. Among the objects of exceptional character may be noticed the pottery rhyton from Tomb 9, which



EARTHQUAKE EFFECTS OF 3,600 YEARS AGO

Some time in the 16th century B.C. Jericho was visited not for the first time by an earthquake, some of whose effects in the palace area are shown in this photograph. On the extreme left is visible a rift in the wall; in the upper left centre beneath the bracket is brickwork tilted forward at a steep angle; to the right of this is a gap and fallen masonry, and still further to the right the circular patches are the broken ends of roof timbers that were burned when the rooms were reconstructed.



PLASTIC ART OF THE HYKSOS PERIOD

Of exceptional interest is this unique bearded pottery hyton or drinking vessel dating from about 1700 B.C. It is not unreasonable to suppose that this represents a familiar Hyksos type of countenance possibly even it is a portrait of the somewhat exaggerated of a Hyksos chieftain. The bearded head is painted in black.

presumably was modelled with the usual exaggeration of detail upon a Hyksos facial type familiar in the locality.

The interments and deposits in the tombs show a practically unbroken continuity throughout the Hyksos period down to the latter half of the 16th century B.C. a date established by a royal scarab of the Egyptian queen Hatshepsut found in the overlying deposits. Such change as is to be noted occurred about the period of the Egyptian king Kamose 1600 B.C. and it is made apparent not so much by a break in the continuity of the series as by a sense of relative poverty in the construction and furnishing of the later tombs. Putting the evidence from the necropolis by the side of the discoveries in the city we conclude that the latter was captured and its fortifications dismantled at the close of the Hyksos period or soon after 1600 B.C., but that it was soon restored and a local dynasty reinstated as vassal of the imperial Pharaohs. This state of things endured uninterruptedly until the earthquake at the end of the sixteenth century involved a reconstruction of the buildings,

and as it were, ushered in a new archaeological period that of the Late Bronze Age (c. 1500 B.C.)

We come now to the last phase in the history of Bronze Age Jericho. The buildings of this period on the palace area and their contents are found to have been consumed by an intense conflagration which has left them embedded in a knee deep deposit of white ash covered by blackened debris. Pottery is however indestructible—a happy fact which provides the modern excavator with the starting point of his investigations—and in this respect there is no lack of evidence from the last burnt strata of occupation. Some hundreds of distinctive fragments including painted wares and Cypriot specimens—such as are common in all sites within the Egyptian empire at this time—were recovered from the debris and are found to correspond piece for piece style for style with the better preserved specimens from the tombs.

Happily again the evidence from the tombs as regards this period is complete and satisfactory. The 15th century B.C. is represented by hundreds of intact specimens. Their stratification is undisturbed and their continuity is attested by the discovery at the appropriate levels of further royal Egyptian scarabs, notably one of Thothmes III the successor of Queen Hatshepsut in Tomb 5, and two of Amenhotep III in Tomb 4 the opening of which is seen in the photograph given below. The last named Pharaoh ruled from about 1411–1375 B.C. and with his reign the deposits in the tombs and city alike come to an abrupt end. Only a handful of specimens represents the ensuing centuries, in vivid contrast to the full series of 1851 pottery objects and 160 scarabs,



INTERIOR OF ONE OF JERICHO'S BRONZE AGE TOMBS

Much light on the last phase of Bronze Age Jericho is thrown by the pottery fragments and funerary oddments recovered from the graves in the necropolis. This photograph shows the interior of a tomb dated by scarabs found among the debris therein to the reign of Amenhotep III (c. 1411–1375 B.C.) as it appeared just before the work of its systematic exploration was begun.



BIRD'S-EYE VIEW OF THE JERICHO PALACE SITE

This photograph, taken at the commencement of the excavation, shows Professor Grist in, surviving, the southern area of the palace. The walls and cobbled street date from the period of the Israelite conquest, but at the foot of the slope are the remains of the eastern tower (2000 B.C.), now partly exposed by the construction of the modern road in the background.

which cover the range of time from the beginning of the Hyksos period down to this Pharaoh's reign. It is, then, established that the normal life of the city of Jericho, and the parallel use of the tombs in the adjoining necropolis, ceased utterly about 1400 B.C.

We have seen that the destruction of buildings in the palace area was attended by an intense conflagration; what now of the city's walls? After the Hyksos fortifications had been dismantled, new ramparts had been built upon the earlier lines on the brink of the slope—in fact, the old wall was used all along the western side as a foundation for the new one. This was of brick, and though less substantial than its predecessor, and built of smaller bricks, it was 10 ft thick, and probably rose some 25 ft in height. It was supported by an outer screen wall, about 6 ft thick, which stood also on older foundations, at a distance of about 12 ft, and therefore somewhat down the slope. This screen wall had in turn been strengthened in places by an outer revetment of stone, doubtless calculated to protect the wall against besiegers.

The precise date of the construction and destruc-

tion of the Bronze Age walls of Jericho is not to be determined independently of the history of the city as a whole, but there is proof apart from inherent probability, that the ramparts and the interior buildings shared a common history, that they were built as part of a general scheme at the close of the Hyksos period, and that they perished together in a common disaster. The last point is established by the examination of the contents of a small house abutting against the city wall, which showed the house to have been destroyed and consumed by fire while in active occupation. The contents included fragments of pottery vessels, mostly of domestic character, with some of the Cypriote fragments already mentioned, together with a quantity of varied foodstuffs found in a corner niche, partly covered and preserved by the fallen brickwork of the wall itself. The foodstuffs included not only the usual cereals, chiefly barley and oats, but olives and dates were clearly recognizable, as well as an onion and peppercorn. Most significant was the little store of bread, together with a quantity of unbaked dough which had been laid aside to serve as leaven for the morrow's baking. Apart from the human interest



FISSURED AND FALLEN WALLS OF ANCIENT JERICO

Careful removal of the debris of ages has revealed the remains in Jericho of walls that are tilted forward, deeply fissured and dislocated. In all likelihood these are the ramparts that collapsed, probably as the result of an earthquake shock, just before the onset of the Israelites under Joshua

of this discovery, the fact is clear that the house was destroyed whilst in active occupation, and there was no sign of any reconstruction. In this case also, the fate of the house was evidently involved in that of the contiguous part of the city wall. It may then confidently be inferred that the city's walls perished at the same time and under the same circumstances as did the buildings within, namely about 1400 B.C.

As to the nature of the collapse of the walls, and the probable cause of the catastrophe, the indications are fairly clear. The photograph in this page shows the present condition of this double rampart, cautiously cleared down to its original bed without disturbing its masonry and brickwork. The stone revetment to the outer walls, and the upper part of the internal brickwork are seen to be tilted forward and in danger of falling down the slope, being thrust off their bed by the great mass of the inner wall impinging against them. The striations under the stonework are intact, so that undermining does not supply the cause. On the other hand, there are signs of dislocation in the brickwork where it remains standing; bricks are drawn apart, and fissures are apparent in the masonry. The indications are those of earthquake, and it would be difficult to find any other explanation to account for a catastrophe on so large a scale.

We reach then the following conclusions: (a) the city perished while in active occupation; (b) buildings and their contents were consumed by a fire of exceptional intensity; (c) the ramparts fell at the same time as the adjacent houses, and the state of their ruins points to earthquake; (d) the date of the fall of Jericho was about 1400 B.C. The archaeologist's province ends at this point, with the exposition of observed facts; and it only remains to add that there is no trace of any general re-occupation of the site until later in the Iron Age, about 900 B.C., though a blockhouse upon the old palace site and other details suggest that a gar-

risson may have been maintained there at various times to watch the fords of Jordan, and the building in question may possibly fall as late as the age of David or Solomon.

Students of the Bible will now be able to compare the established facts with the Biblical tradition of the fall of Jericho contained in the Book of Joshua, which tells how the walls fell and the city was captured and deliberately destroyed by fire. The burning was doubtless a ceremonial act, the devotion of the first captured city in its entirety to Yahweh. The date of the episode is to be calculated from a reference to the building of Solomon's temple in 1 Kings vi., i., which embodies the only definite statement on the subject, and shows that the traditional date must have fallen towards the close of the 15th century B.C., and this is consistent with the original chronological indications of the Book of Judges.

In a word, in all material details and in date the fall of Jericho took place as described in the Biblical narrative. Our demonstration is limited, however, to material observations: the walls fell, shaken apparently by earthquake, and the city was destroyed by fire, about 1400 B.C. These are the basic facts resulting from our investigations. The link with Joshua and the Israelites is only circumstantial but it seems to be solid and without a flaw.

Mysterious Remains of Unknown Races

By Donald A. Mackenzie

Author of "Egyptian Myth and Legend," "Migration of Symbols," etc.

IT is strange to think that we really know more about the migrations, the physical characters, and even the intellectual life of the Palaeolithic hunters and cave-painters who lived in western Europe during the latter stages of the Ice Age than we do about some civilized peoples of later times. We find in isolated areas great buildings which bear evidence of a wonderfully high degree of skill, an 'infinite capacity for taking pains,' and an advanced social organization. In ancient times, when the pioneer navigators penetrated uncharted seas and discovered new lands, the elements of a well-developed civilization were suddenly transplanted to distant sites, there to flourish for a time in splendour far from the areas of origin. Then a time came when, for reasons unknown to us, elaborate structures were deserted, the civilization of which they are eloquent monuments perishing completely. We search the ruins in vain for inscriptions that might throw light on the identity of the builders, and in most cases we are left guessing as to what could possibly have been the psychological motives which prompted them to settle in distant areas and there live laborious days.

Wonderful and mysterious remains of an unknown people, who must have been accomplished seafarers, are to be seen, for instance, in that north Pacific archipelago between the Philippines and the Marshall Islands, which we know as the Caroline Islands. This group looks quite insignificant on even a large map of the world, yet it must have possessed attractions for the ancient mariners who discovered it long before European ships entered the Pacific, for there they constructed for themselves a city which has been compared to Venice.

On the east coast of the island of Ponape is a

shallow lagoon studded with over fifty islets, occupying an area of about ten square miles, which are either wholly or partly of artificial formation. Some of them are faced with shafts and prisms of basalt—shafts similar to those of Fingal's cave in Staffa and the Giant's Causeway on the north coast of Ireland. Two of the artificial islets are enclosed in walls formed by these polygonal columns, and there is also a complex system of canals. To the modern natives this Micronesian Venice is known as Nan Matol, which signifies 'Place of Canals.' The ancient builders not only constructed islets for their remarkable edifices, but undertook the laborious and ambitious work of erecting ponderous breakwaters. One still withstands the onslaughts of the Pacific billows, and beyond it the ruins of another, which protected two small islands, can still be traced for several miles.

The most notable of the artificial islets is known

to the dusky modern natives as Nan Tanach —'Place of High Walls' It has a massive foundation of basaltic blocks and a great surrounding terrace of the same material, rising about seven feet above high-water level. The enclosing wall is about ten feet in thickness and between twenty and thirty feet in height. On the western side is a spacious and dignified gateway, and from it a stairway leads to a courtyard which is about a hundred and eighty-five feet in length and about a hundred and fifteen in breadth. An inner enclosure, measuring about eighty-five feet in length and about seventy-five in breadth, has a wall which at places is eighteen feet thick and rises at its highest point to forty feet. In the centre—evidently the most sacred part—is a vault formed by half a

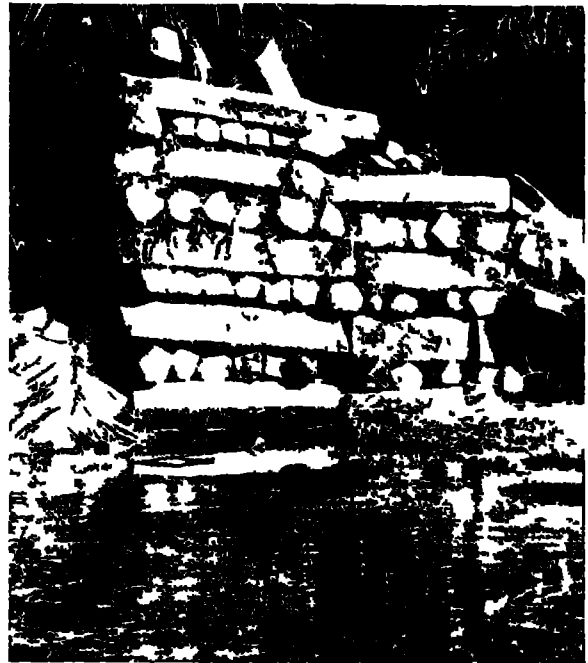


MYSTERY HOUSE OF SARDINIA

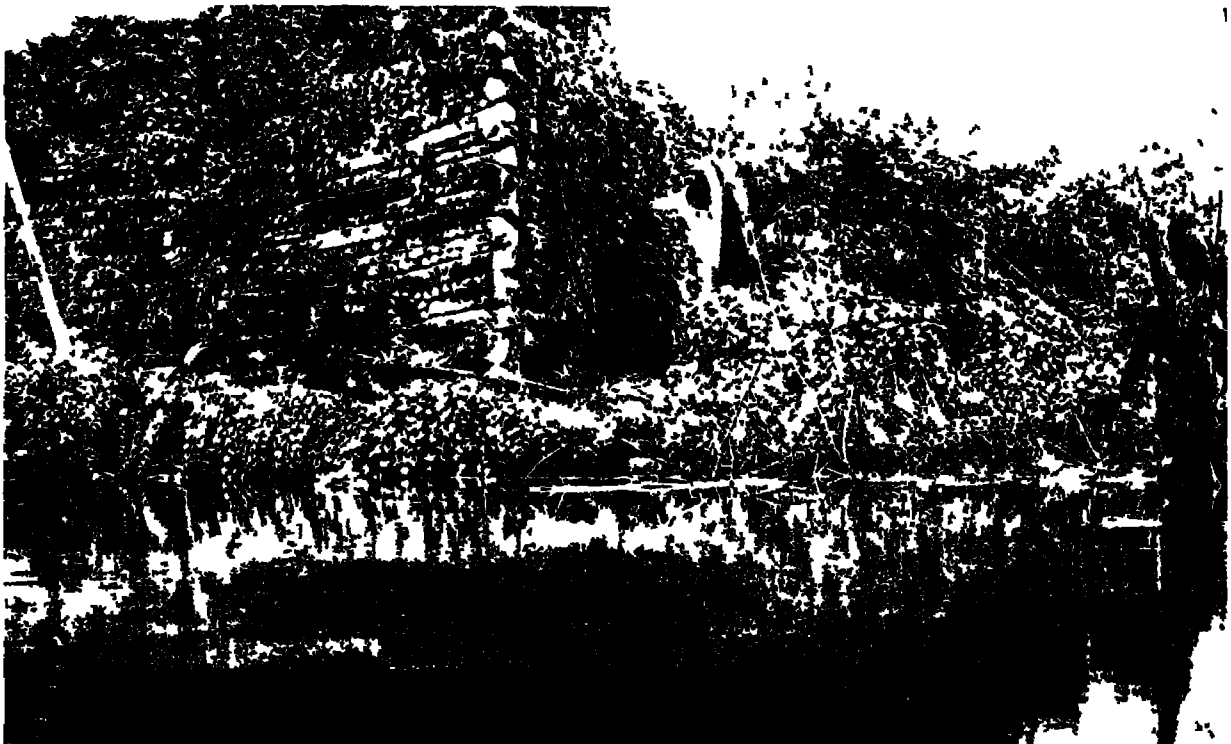
Hundreds of stone towers called nuraghi survive in Sardinia. Their builders are unknown. Their entrances are small, but in that to the Nuraghe Paddaggia at Castel Sardo, shown above, the heavy stone slab across the opening made access impossible save on all fours

dozen great blocks of basalt and paved with basalt. This was the burying place for the kings, and near it are smaller structures of like character for the noblest and best. The great ruins are smothered more or less by clumps of trees including the coconut the mangrove and the banyan as well as by brilliantly-flowering creepers while shrubs ferns weeds and grasses flourish all around. Native legends regarding the ancient builders are similarly luxuriant and confused. There may however, be genuine tradition in the stories about monarchs who were buried in the stone formed vaults and about fierce sea rovers who during a great war captured and sacked this Micronesian Venice. None can tell however who the great builders were or whence they originally came.

Another settlement of this mysterious people was formed at Strong's Island—also known as Iele or Lela—in the most easterly part of the Carolines archipelago. There similarly massive basaltic walls form enclosures but the work does not display the same high skill as that of Ponape. The chief structure is known as Pot-Falat—High Wall. The natives live among the ruins which curiously enough are not held in superstitious dread, as are those in the Ponape lagoon. At one part of the island shore land are intersecting canals and artificial islets.



Besides inventiveness the builders of these artificial islands must have had considerable skill as practical engineers, for many of the columns and blocks are several tons in weight requiring very nice precision in adjustment to give them permanence.



HIGH UNMORTARED WALLS OF A PACIFIC VENICE GROWING FROM THE WATER

Nan Tauach, or the place of high walls, is one of the artificially constructed islets of the Ponape group. The lower photograph shows the southern corner of its outer wall. This is 27 feet high and, as usual, is built upon a solid and wide foundation of basaltic blocks. Above this (top right) is a part of the south east wall of Us en tau, another islet. It shows very clearly the construction of the wall which from the foundation (below water) upwards consists of alternate layers of solid columns placed horizontally and rows of small unheaved stones.



THE CONE-LIKE VAULT OF A SARDINIAN STRONGHOLD

The above photograph shows the vault of a Sardinian nuraghe with the light at the summit as seen from the base of the circular interior. Built like the rest of the structure with unmortared stones, this vault helps to deepen the mystery of those warrior-builders whose work linked as ancient monuments even in the days of Pliny.

but the luxuriant flora, which conceals portions of the ruins, also invades and chokes these ancient water-ways.

We can visualise the period when the turmoil of agitated civilization prevailed in the primitive and peaceful Carolines. Gangs of workers were active in the quarries, hammering out the columns which nature had moulded for them; other gangs were employed in the laborious work of transport, hauling and sliding the blocks of basalt to the shore, whence they were conveyed on rafts by sea and up the canals; while gangs of builders raised column above column to form lofty and massive walls. But we are left guessing why a civilized people should have settled on these isolated islands, what

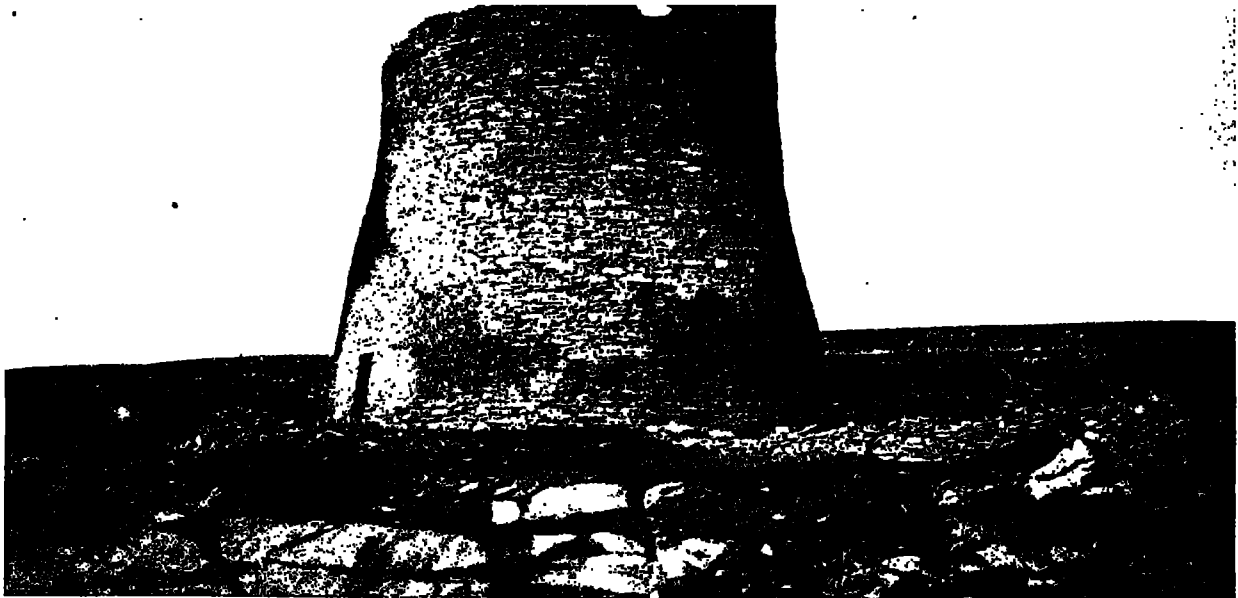
they searched for and found and where they disposed of their treasure which brought them so much profit that they could organize and feed large numbers of workers to erect strongholds, artificial islands and breakwaters. Time, which has mutilated these gigantic works, securely holds the secret of the builders in its great silence.

An atmosphere of mystery, similarly envelops the round stone towers of the Mediterranean island Sardinia which were already ancient in the first century B.C., when Diodorus Siculus, the historian referred to them as the work of the semi-mythical Greek architect Daedalus, who was also credited with the construction of the Cretan labyrinth for King Minos, as well as certain structures in Sicily. These Sardinian towers are known as the 'nuraghi', and have also been referred to by the islanders as 'Domu de Orcu.' Several hundred of them survive in various stages of decay, some being mere rubbish heaps and others with the lower courses still fairly complete. One, in the district of Busachi, is nearly sixty feet high, and there are other more or less imposing.

The building work reveals considerable skill. There are two outstanding types, however, which may belong to different periods. One type is of massive blocks of stone with irregular faces, laid without mortar, and therefore

'dry stone work. The other type has stones which have been roughly squared and dressed and set in comparatively regular layers. Apparently these nuraghi were built as strongholds. They invariably occupy strategic sites, some on the summits of natural eminences overlooking plains. The fact that around most of them can still be traced the ruins of ancient village houses of stone suggests that when a raid occurred many sought refuge in the strongholds.

The thick, circular walls of the nuraghi enclose central courts which usually average about thirty feet in diameter. Inside the walls, or between two concentric walls, are spiral staircases or ramps leading to upper chambers or floors. There are



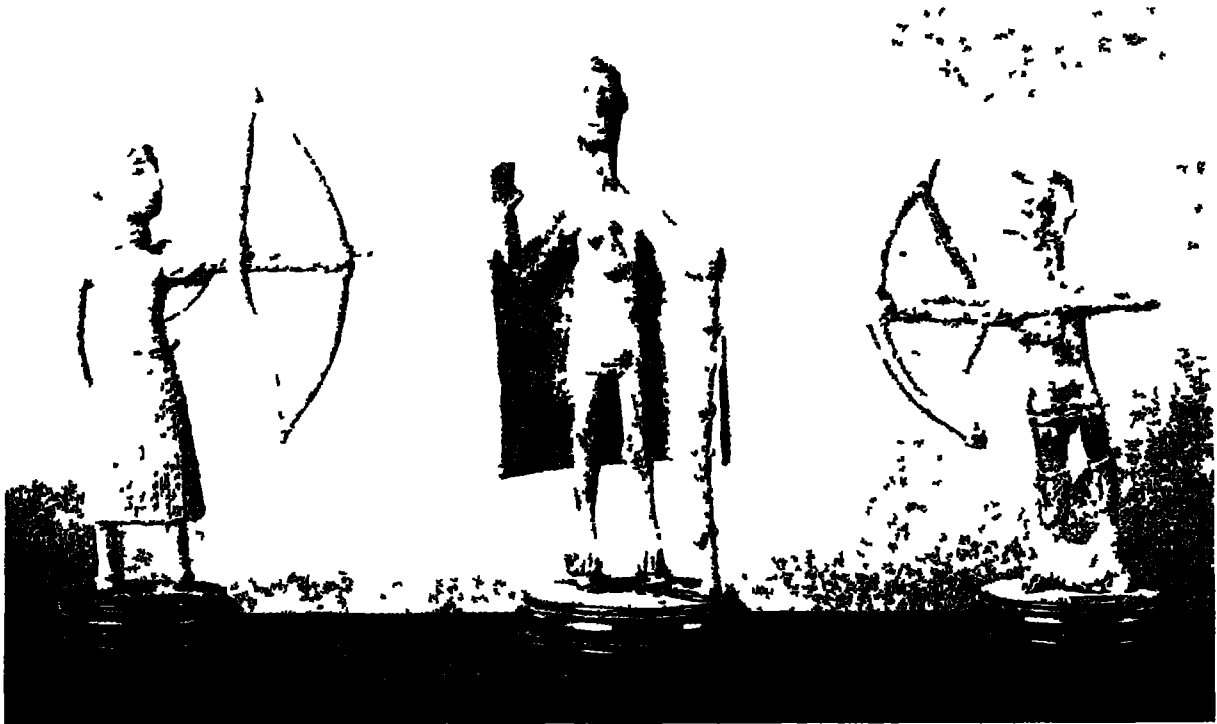
W. F. Mansell



E.N.A.

MYSTERIOUS ROUND TOWERS OF SCOTLAND AND SARDINIA

The Broch of Mousa (upper photo), on the island of Mousa, south of Shetland, is one of those squat circular towers found in various parts of northern Scotland which have been classified under the heading of Pictish houses. It stands 50 feet high and is 60 feet in diameter. Archaeologists have been struck by the close resemblance between these Scottish monuments and the nuraghi of Sardinia, one of which, the Nuraghe Losa at Abbasanta, is shown in the lower photograph.



PRODUCTS OF AN UNTUTORED ART IN THE IRON AGE OF SARDINIA

If the Sardinian nuraghi were the work of a warrior nation, the prehistoric bronze figures shown above, which were found in the island, convey the impression of a race whose only arts were war and building. Who were they? The ancient Pelasgi were a tribe of warrior builders who are supposed to have reached Sardinia, and there were also the Shirdanu mentioned in Egyptian annals as stubborn foes of Rameses II. They gave the island its name. Perhaps they shared the achievement.

two kinds of entrances, one being so low that a man has to stoop to get through and the other about six feet high and rather narrow. Indeed the nuraghe entrance of Su Cadalanu is so narrow that a man walked in sideways. Entrances were closed with slabs of stones. In the passages we find niches which are called guard chambers, because it is apparent that an armed sentinel standing in one could attack with advantage a stooping or confined intruder. An interesting fact is that the hole leading to the spiral staircase invariably opens on the left and at some height from the floor level. All the nuraghi are situated near streams or wells. Some were built over wells. Many have round them the remains of walls and earthworks of later construction than the main tower, suggesting that repairs were required from time to time. Some have been more elaborately protected with small outer towers connected by covered galleries which were constructed at the same time as the main fortress or afterwards. The large nuraghe near Bonorva has a solid substructure of durable lava.

It appears that these strong towers were erected by a warlike people, perhaps a piratical people, but whether or not they were those ancient sea rovers, the Shirdanu, who gave their name to the island, it is impossible to say.

Other mysterious towers, called talayots, are to be seen in the Balearic Islands. Most of them are

circular, but some have a square base. The entrances through the thick walls are as in the nuraghi of restricted breadth.

But the ancient round brochs of Scotland are even more like the Sardinian nuraghi. These have similar entrances which are either low or high and narrow, while the spiral staircases always enter on the left and usually at some height from the ground. Some too have been built over wells and others are near supplies of water. The inner court averages about thirty feet in diameter. On the sea coast a broch usually stands on a headland, while others occupy strategic sites on islands or on inland eminences. Traces of outworks still survive. When however, archaeologists are asked to identify the builders of the brochs, they confess themselves puzzled. Certain relics found within some indicate that they were in existence during the Roman period. There are also references in the Icelandic sagas to Vikings occupying brochs. Like the mysterious nuraghi, the brochs have been so well built that a few still remain in an excellent state of preservation, even though the massive walls were constructed without mortar. These brochs are most numerous in the islands and the mainland areas occupied by the ancient peoples known in old Gaelic writings as the Orcs (boars) and Cats (cats). These are evidently clan or tribal names, but the racial problem involved is obscure.

Prehistoric and Roman Roads

By O. G. S. Crawford, F.S.A., Editor of "Antiquity"

Author of "Man and His Past"

THE subject of prehistoric trackways is a fascinating one, it is associated with the downs and fresh air and holiday tramps over the breezy uplands of Wessex or Kent, but there are many pitfalls for the unwary

We may begin by stating an obvious fact. Ever since Britain was inhabited there have been trackways across it, from the days of the hunters of the old Stone Age onwards. But it is not until the Age of Iron, shortly before the Roman conquest in A.D. 44, that we can pretend to identify any of these tracks, and when all has been said our pretensions often fail to convince. We do know, however, that, for several centuries at least before the beginning of our era, England, and especially the chalk region in the south, was pretty thickly covered with agricultural villages. They were scattered over the downs, not strung along the valleys as they are now, and their inhabitants cultivated the land around. The banks and lynchets of their fields can still be seen, dividing up the land into rectangular cultivation-patches.

Living as they did on the high dry ground, the villagers had to go down hill for their water, and we may generally find, at the bottom of some adjacent dry combe, a "spring pond" with an old hollow track leading to it. Between the lynchets too, one may often detect a grassy terrace where once a cart track passed between them. Such tracks, called (for reasons which cannot be detailed here) "double-lynchet ways," occur wherever, on the downs of Sussex or Wessex, there is to be found one of these areas of prehistoric cultivation. They are most striking when seen from an aeroplane, but may also be seen from the ground when looking across a valley to the opposite slope. When passing between fields on a level plateau or along the top of a ridge, such field tracks are generally bounded by a bank and ditch on either side and the banks, at any rate, can often be seen. There are

good examples at Park Brow, near Cissbury, and on Windover hill in Sussex, on Pertwood Down, in Wilts (see p. 1231); and in the Romano-British village of Woodcuts in Dorset.

An excellent and very early example of a genuine prehistoric track may be seen climbing the escarpment on the north side of the Vale of Pewsey, near Wiltinton. It is deeply cut into the chalk by the wear and tear of centuries of traffic and rain, and it may be traced across the ploughlands below right into the prehistoric village of All Cannings Cross. This village (of which there is nothing visible on the surface) belongs to a period which has been dated to about 600-400 B.C. It was excavated in 1911 and after the war by Captain and Miss Cunnington, and it brought to light a new period and cultures. The road was doubtless the one by which the villagers drove their sheep and cattle to pasture on the downs.

When these Iron Age people settled on stony ground they laid out their fields in the same way, but surrounded them with dry stone walls, just as they do to day in the Cotswolds. The foundations

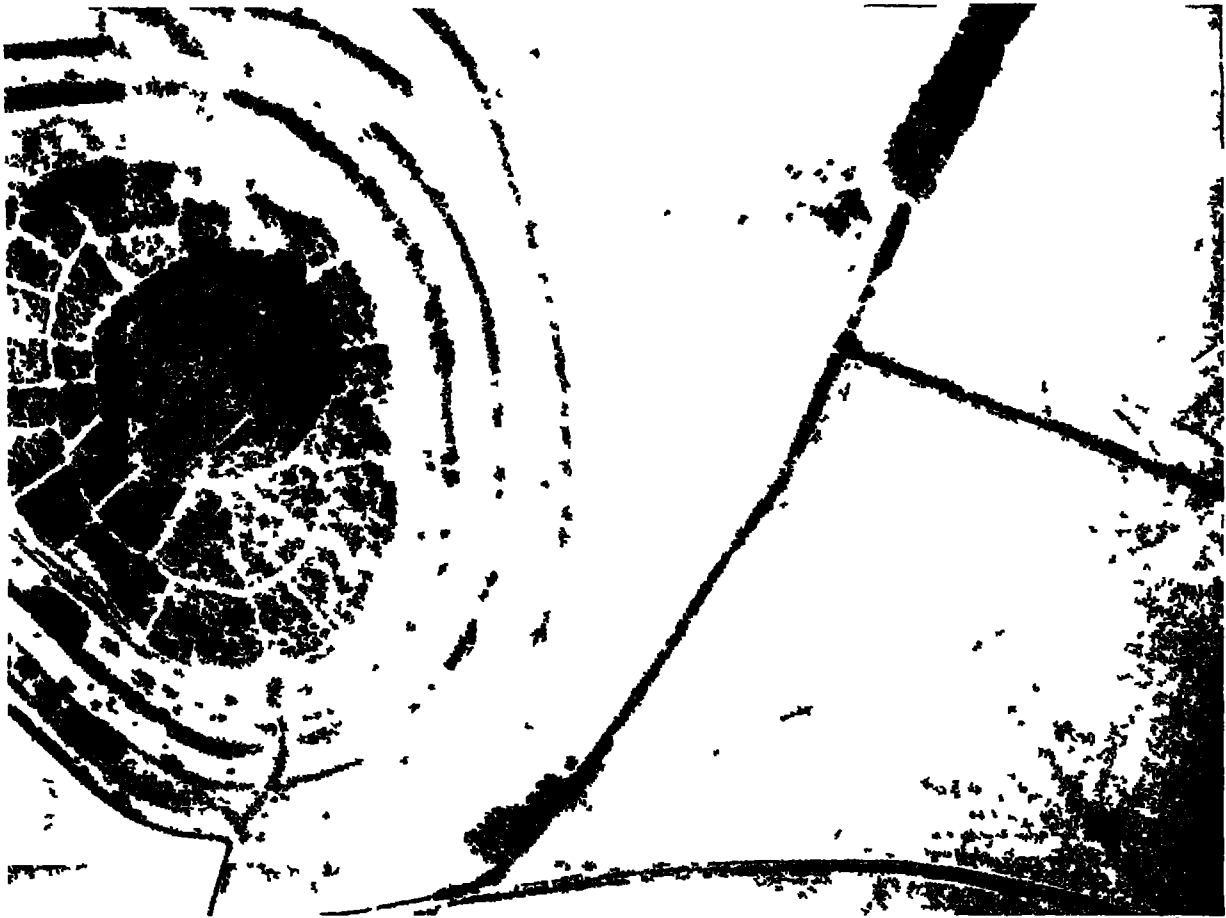
of these walls can be seen to-day, there are hundreds of them on the hills round Bath, on Charmy Down, Lansdown, Bathampton Down and West Littleton Down, and in the Isle of Purbeck, especially near Worth Matravers. At the last place the foundations of rectangular buildings can be seen, set in the middle of a large group of fields. In such districts the field roads were bounded by the walls of the fields, and wherever we find the grassy remnants of two such walls running parallel, we may safely infer that a road of sorts ran between. Several such may be seen on the Bath golf links on Bathampton Down, though they are of course grass grown and long since disused and probably quite unrecognised by the hundreds of people who tread them daily.

But besides these open, undefended hut-clusters, there were also strongly



ROMAN PAVING IN GLOUCESTERSHIRE

Large slabs of stone were sometimes used in the construction of Roman roads, being often brought from a distance. The section at Blackpool Bridge in the Forest of Dean shown in this photograph reveals characteristic bits of the pavement.



AN AIR-PHOTOGRAPH OF BADBURY RINGS AND THE ROMAN ROAD

By permission of the Ordnance Survey

Badbury Rings, near Blandford in Dorset, crowns a high hill looking right across to the Solent. The photograph shows a Roman road running diagonally from the bottom right hand corner. The upper portion of the road runs over downland, and is plainly visible on the left, but the lower portion is through a corn field where it is practically lost and can be seen only from the air. The camp figures prominently in Saxon history.

fortified villages on the hill tops. Misnamed camps—for all or nearly all were permanently inhabited—these village stone holds were surrounded by stout bulwarks of earth or stone (whenever available) and they contained a self-sufficing community. We know from tangible remains that there were permanent huts or small cottages of wattle and daub with straw roofs, and that grain was stored in pits. One thing only was lacking in sufficient quantity to meet all emergencies—water. No doubt water was stored in large pots, but there can hardly have been an adequate supply for all including the animals. At any rate wherever we see a camp we should look for the nearest water supply—a stream, spring or pond—and we may generally find traces of the well-worn track leading to it. Such a track, deeply bitten into the chalk, descends the steep slopes of Hod Hill near Blandford in Dorset to the river Stour. Water carriers must have toiled up it in all weathers.

Another may be seen leaving the entrance of Freezing Hill Camp, north of Bath, and ending at

a spring half-way down the slope. In Wales, where such fortified hills abound, the road leading up to the main entrance may nearly always be observed, flanked on either side with huge stones, remnants of a wall, and hollowed out as usual by constant use and the ravages of rough weather.

NONE of these tracks were of great length or of more than local importance. They led from the village to its water supply, its fields and its pasture grounds or to the next village. They were the merest tracks, unmetalled and uncared for. They came into existence to meet a local need and came to an end when their objective was reached. They were not deliberately planned but grew, like a foot path, beneath the feet of those who trod them, whether man or beast. Main roads or thoroughfares, such as the Romans made, were unknown. Like causes produce like effects. Wherever to-day there exist semi-barbarous communities such tracks exist. They may be seen in Asia Minor and occasionally nearer home, and those who would form some

image in their minds of what England was like in the Iron Age should study conditions in these primitive regions

Nevertheless it is probable that certain lines of communication connected widely separated districts. We know that, even in the Neolithic period, the people of southern England obtained weapons and ornaments from afar and in the Bronze Age this primitive trade was flourishing. The people of Wessex obtained gold ornaments from Ireland, jet from Yorkshire, stone hammers and axes from some distant region at present undiscovered, and metal, or metal implements, from another. Trade implies trade routes, for, even if some of these goods were bartered from village to village, there must have been wide uninhabited spaces to be crossed. We know from the finding of their 'hoards,' that travelling tinkers flourished in the Bronze Age, and we may reasonably suppose that pedlars dealt in other wares.

But when it comes to identifying on the ground the trade routes used by these old merchants, we are faced by a very difficult problem. The tracks were of course unmetalled, they must have resembled the camel tracks of Arabia which flow like wide

rivers across the country, their course marked only by the impression of the pads on the desert sand. Over the open downs any marks the traffic might make would be but skin deep and after a few years disuse would be effaced by the healing power of Nature. But such tracks have a soul as well as a body. Their soul resides in the memory of those who use them and nothing but the complete extermination of a whole population can efface that memory.

ONE of the best known of these tracks is the Ridgeway. Starting probably from a ford on the Thames at Streatley, it goes up on to the Berkshire Downs. This is the district once called Ashdown, here Alfred defeated the Danes in 871, of whom it is recorded that they marched (from their base at Reading) along the Ridgeway. The route follows the crest of the downs, passing Scutchamer Knob (on East Hendred Down) a huge round barrow formerly called (wielhelmes Hlaew — the burial mound of Cwichhelm, a king of Wessex). Its course throughout is grass grown and unmetalled. The banks which contain it on either side are quite modern.



By permission of the Ordnance Survey

ROMAN ROAD AND CELTIC FIELDS ON A WILTSHIRE DOWN

This air photograph of Pertwood Down shows a Roman road running straight (up from left to right) to the brow of a valley slope, where it is joined by an earlier prehistoric field track, marked by close parallel lines. Up to the Roman road on the other side run the banks or lynchets of the native Celtic fields. In addition to this example of a field track in Wiltshire, there are good examples at Park Brow, near Cissbury, and on Windover Hill, in Sussex.

Throughout the first thirty-eight of its forty-three miles the Ridgeway does not pass through a single village; and until recently not a single house stood upon it. In contrast to this, no less than eight "camps" occur by its side, and one of these—Knap Hill—is Neolithic. The rest belong presumably to the Iron Age, but are in any case of pre-Roman construction. Of all these "camps" the best-known is perhaps Uffington Castle, a fortified prehistoric village on the highest point of the Berkshire Downs. Close by is the celebrated White Horse, carved in the turf and visible from everywhere in the vale and from the distant Cotswolds that rise beyond. A little farther on is Wayland's Smithy, an artificial burial-place made of the local sarsens and belonging to the Neolithic period.

As it approaches its goal on Salisbury Plain the Ridgeway passes innumerable sites of the greatest interest. On Seven Barrows Hill, above East Kennett, between Marlborough and Beckhampton, it crosses the Roman road from Marlborough to Bath and, shortly after, the modern Bath road. The Roman road is well preserved and worth a visit. Close by is a fine group of barrows. At the foot of Walker's Hill it is joined by a modern road, which follows it through the village of Alton Priors. Here, a mile east of the village, in the huge open ploughlands between Knap Hill and Woodborough Hill, two entirely unsuspected "camps" were discovered from an aeroplane by Squadron-Leader Insall, V.C.

We do not know at what date the Ridgeway was first used. It must be stated as clearly and emphatically as possible that there is no *proof* of its existence before the Saxon period, when it is first mentioned by name. That it was in use long before this is an inference, not a proven fact.

Roughly parallel with the Ridgeway, along the foot of the same escarpment, runs the Icknield Way. Both start from Streatley and after thirty-five miles unite again on Seven Barrows Hill. (The Icknield Way continues far beyond Streatley, of course. It runs at the foot of the Chilterns and on into Cambridgeshire, passing through Royston and Newmarket. It probably ends on the coast of the Wash near Hunstanton, in Norfolk.) The Icknield Way, however, passes through no less than thirteen villages, situated at the springs which burst out from beneath the chalk. These villages themselves were founded by the Saxons, but there is evidence that the sites which some of them occupy were also inhabited during the Roman period. Evidence from elsewhere suggests that the Icknield Way is of prehistoric origin.

It would be impossible to describe all even of the better known tracks for which a prehistoric age has been claimed. A mere enumeration of three more must suffice:—(1) The Harroway: from Farnham to Weyhill and Salisbury Plain (perhaps O.E. *Hearh-weg*=*[heathen]* shrine-way, because it led to Stonehenge); (2) the Pilgrims' Way: from Canterbury to Farnham and Winchester; (3) Banbury

Lane. from Banbury to Northampton. (Probably an Iron Age road connecting Somerset with Yorkshire via Bath, Birdlip, Andoversford, Stow, Rollright, Banbury, Northampton, Kettering, Lincoln and Winterringham.)

We now proceed to deal with the Roman roads. The Romans were civilized people. It would be inaccurate to describe their civilization in terms of our own, though it had many features in common with ours. But the Romans were the first to introduce a centralised government into Britain and to perform the first duties of government—the maintenance of law and order. This was achieved by the construction of a road-system. Roman roads differed in kind from any which had existed before. They were deliberately designed as a complex whole, radiating from a few central points. They were constructed by means of a raised causeway with metalling (the materials being often brought from a distance). They were laid out in straight lines with mathematical skill. In all these three respects they differed utterly from any roads that had previously been in existence.

The fact that such a quantity of material was used to form the causeway—raised sometimes as much as eight feet high—enables us to trace the course of many of these Roman roads with considerable accuracy. Many of them survive in use at the present day. One of them, connecting Londinium (London) with Durovernum (Canterbury), after lying derelict for centuries, has recently been partly reconstituted as an arterial road—and a very fine road it is. Nothing so good as these arterial roads of ours has been ever achieved in any country since Roman times.

ROMAN roads were laid out in straight sections from one hill to the next. In the mountainous districts of Wales and the North such straightness could not often be attained, and the roads generally followed the valleys. Elsewhere, however, natural obstacles were few. Very steep slopes were negotiated by an oblique descent, but the line was resumed again beyond. Tidal estuaries were generally, but not always, crossed above the highest tidal point. Marshes were negotiated by means of a gravel causeway of the same character as that used for the rest of the road.

One of the most remarkable of Roman roads is the Foss Way. It ran from Isca Dumnoniorum (Exeter) to Lindum Colonia (Lincoln), and it never deviates more than six miles from a straight line drawn on the map between these two points. It has been suggested by Mr. R. G. Collingwood that the Foss Way represents a stage in the Roman conquest of the island—the front line or frontier of the first century. His suggestion is strongly supported by the evidence of the "stations" along the road, many of which have yielded first century remains and recall in their plan the typical square Roman camp. It was the custom of Roman commanders thus to delimit their military frontier by means of

a road The would-be conqueror of Scotland made just such a road in Strathmore, placing a line of signal stations at intervals along it, between strongly entrenched forts. Such signal-stations are still to be seen, in an excellent state of preservation, along the Gask ridge, between the great fort of Ardoch and another just outside Perth. They will probably be found some day along the Foss Way.

Watling Street is another well known Roman road. (The name, like the names of all Roman roads in Britain, was given to it later by the Saxons; we do not know what the Romans called it.) It runs from London to Chester; and the names of the places along it are preserved, together with a great many others, in an old Roman road-book called the Antonine Itinerary. This Roman Bradshaw gives also the distances which separated the places; and from it we can locate them to-day, with the exception of about half a dozen. They are shown, together with the roads themselves and many other remains of the period, on the Map of Roman Britain published by the Ordnance Survey (Southampton).

THOUGH not in origin a Roman road, the Icknield Way was undoubtedly used during the Roman occupation, and it was probably kept in some sort of repair. It differs essentially from aligned Roman roads, for it wanders in graceful curves, adopting the easiest course according to the lie of the land.

The Saxons called it "street," and from this it has been inferred that it was metalled, for there is good reason to believe that practically all roads which were called "street" before the Norman conquest were of Roman origin, or at any rate were in use then.

Akeman Street was so called because it led from Acemannes Ceastre (the Saxon name of Aquae Sulis, now Bath) to Verulamium (St. Albans). Part of a street in London was also called by this name, presumably because it, too, led to Bath. The road in question is mentioned in a document of Edward the Confessor (1042-1066); it lay south of the present Oxford Street.

When the Romans left Britain about the year 410 the roads continued in use, but were not repaired. The Saxons introduced an entirely different social and agricultural system. New centres sprang up and old ones decayed. Some of the towns continued; others, like Silchester and Wroxeter, died. This change necessarily affected the road-system, for many stretches of the existing roads ceased to serve any purpose and were abandoned.

Hence, to-day, we find, round towns of Roman origin, like Winchester, many Roman roads still converging and thronged with cars; while a shift of a mile, from Old Sarum to Salisbury, has turned the Roman roads into green lanes, or obliterated them altogether. They served their purpose admirably for 400 years, and no reasonable person could wish to revive them.



TRACES OF THE ROMAN HIGHWAY FROM YORK TO CARLISLE

Valentine

The photograph shows a section of the road from York to Carlisle, ascending through a belt of beautiful woodland near Appleby. As a rule Roman roads were built in straight sections from one hill to the next, but among the mountains and fells of the Lake District this was not always possible, and the traditional straightness was departed from by taking the track along the line of the valleys or obliquely up a steep hill, yet never far out of the course, which was resumed when easier country was reached.

The Alexandria of Antony & Cleopatra

By Arthur Weigall

Author of "The Life and Times of Akhnaton," etc.

OF no wonder city of the past are the actual remains so scanty as in the case of ancient Alexandria. An ingenious archaeological plan compiled about a quarter of a century ago has been shown by later research to have no practical value as a guide. The old site has been completely covered up by the modern city. Fortunately, in the article that follows, the literary skill of our contributor has created so vivid a picture of the vanished splendour of the famous city that the absence of pictorial documents is less noticeable here than it would otherwise have been —EDITOR.

ALEXANDRIA was founded by Alexander the Great in 332 B.C., and its topographical position seems to have been chosen on account of its detachment from Egypt proper. The city was erected upon a strip of land having the Mediterranean on the one side and the Mareotic Lake on the other, and thus it was cut off from the hinterland far more effectively even than was Carthage by its semi-circle of hills.

Alexander had intended to make the city a purely Greek settlement, the port at which the Greeks should land their goods for distribution throughout Egypt, and whence the produce of the abundant Nile should be shipped to the north and west. He therefore selected a remote corner of the Delta for his site, with the plain intention of holding his city at once free of, and in dominion over, Egypt. And so precisely was the location suited to his purpose, that until this day Alexandria is in little more than name a city of the Egyptians.

The climate here is very different from that of the interior of the Delta, and bears no similarity to that of Upper Egypt, where

the ancient Pharaohs lived. The summers are not excessively hot—indeed, many of the days are cool and temperate. The winter days are often cold and rainy, and while Thebes and the Pyramids bask in more or less continual sunshine, the city of Alexandria is lashed by intermittent rainstorms, and the salt sea wind buffets the pedestrians as it screams down the streets.

For our present purpose it will be best to describe the city at some definite period of its history, and since it is generally associated in our minds with the tragedy of Antony and Cleopatra, we may as well choose the year 35 B.C., when these two famous lovers were living in splendour in the palace of the Ptolemies.

The coast of Egypt rises so little above the level of the Mediterranean that the land cannot be seen by those approaching it from across the sea until but a few miles separate them from the surf which breaks upon the sand and rocks of that barren shore. The city, at this time, was largely hidden from view by the long, low island of Pharos, which lay in front of it. Two promontories of land



"POMPEY'S PILLAR" AT ALEXANDRIA

This monument, popularly known as Pompey's Pillar, stands on the site of the Serapeum, and is one of the few remains of ancient Alexandria. It is a great monolithic shaft, and appears to be an Egyptian obelisk rounded and fitted with a Corinthian capital; beneath it are substructures of an earlier age, and underground chambers connected with the mysteries of Serapis.

projected from the coast opposite either end of the island, and these being lengthened by the building of breakwaters, the straits between Pharos Island and the mainland were converted into an excellent harbour, both it and the main part of the city being screened from the open sea. There was one tremendous landmark, which served to direct all vessels to their destination—namely, the far-famed Pharos lighthouse, the subject of a separate article in this work (see page 825). Standing upon the east end of the island, it overshadowed the main entrance to the port.

The harbour was divided into two almost equal parts by a great embankment, known as the Heptastadium, which joined the city to the island. This was cut at either end by a passage, or waterway, leading from the one harbour to the other; but these two passages were bridged over, and thus a clear causeway was formed, seven stadia, or 1,400 yards, in length. To the west of this embankment lay the harbour of Eunostos, or the Happy Return, which was entered from behind the western extremity of Pharos Island; while to the east of the embankment lay the Great Harbour, the entrance to which passed between the enormous lighthouse and the Diabathra, or breakwater, built out from the promontory known as Lochias. This entrance was dangerous, owing to the narrowness of the fairway and to the presence of rocks, against which the rolling waves of the Mediterranean, driven by the prevalent winds of the north, beat with almost continuous violence.

A vessel entering the port of Alexandria from this side was steered towards the great lighthouse, around the foot of which the waves leapt and broke in showers of white foam. Skirting the dark rocks at the base of this marble wonder, the vessel slipped through the passage into the still entrance of the harbour, leaving the breakwater on the left hand. Here, on a windless day, one might look down to the sand and the rocks at the bottom of the sea, so clear and transparent was the water and so able to be penetrated by the strong light of the sun. Seaweed of unaccustomed hues covered the sunken rocks over which the vessels floated, and anemones, like great flowers, could be seen swaying in the gentle motion of the under-currents.

Passing on into the deeper water of the harbour, in which the sleek dolphins rose and dived in rhythmic succession, the traveller saw before him such an array of palaces and public buildings as could be found nowhere else in the world. There stood, on his left hand, the Royal Palace, which was spread over the Lochias Promontory and extended round towards the west. Here, beside a little island known as Antirrhodos, itself the site of a royal pavilion, lay the Royal Harbour, where

flights of broad steps descended into the azure water, which at this point was so deep that the largest galleys might moor against the quays.

Along the edge of the mainland, overlooking the Great Harbour, stood a series of magnificent buildings which must have deeply impressed all those who were approaching the city across the water. Here stood the imposing Museum, which was actually a part of another palace, and which formed a kind of institute for the study of the sciences, presided over by a priest appointed by the sovereign. The buildings seem to have consisted of a large hall wherein the professors took their meals; a series of arcades in which these men of learning walked and talked; a hall, or assembly-room, in which their lectures were held; and at the north end, close to the sea, the famous library, at this time containing, it is estimated, more than half a million scrolls.

In passing, the tragic end of this great collection of the wisdom of the ancients may be recorded. At the Mahomedan invasion in A.D. 641 the Caliph Omar ordered the scrolls to be burnt; for, he said, "if these books agree with the Koran they are superfluous and need not be preserved, and if they disagree, they are pernicious and ought to be destroyed." Thus, at the word of an ignorant fanatic, the accumulated learning of the world was destroyed.

On rising ground between the Museum and the Lochias Promontory stood the theatre, wherein those who occupied the higher seats might look beyond the stage to the island of Antirrhodos, behind which the incoming galleys rode upon the blue waters in the shadow of Pharos. At the back of the theatre, on still higher ground, the Pancon, or Temple of Pan, had been erected. This is described by Strabo as "an artificial mound of the shape of a fir-cone, resembling a pile of rock, to the top of which there is an ascent by a spiral path, from whose summit may be seen the whole city lying all around and beneath it." To the west of this mound stood the Gymnasium, a superb building, the porticoes of which alone exceeded a stadium, or 200 yards, in length. The Courts of Justice, surrounded by groves and gardens, adjoined the Gymnasium. Close to the harbour, to the west of the Theatre, was the Agora (or Forum), and in front of it, on the quay, stood a Temple of Neptune. To the west of this, near the Museum, there was an enclosure called Sema, in which stood the tombs of the Ptolemaic Kings of Egypt, built around the famous Mausoleum wherein the bones of Alexander the Great rested in a sarcophagus of alabaster.

These buildings, all able to be seen from the harbour, formed the quarter of the city known as

the Regia, Brucheion, or Royal Area. Here the white stone statues and monuments, the trees and brilliant flower-gardens, the flights of marble steps passing down to the sea, the broad streets and public places must have formed a scene of magnificence not surpassed at that time in the whole world. Nor would the traveller, upon stepping ashore from his vessel, be disappointed in his expectations as he roamed at pleasure through the streets of the town.

Passing through the Agora, he would come out upon the great thoroughfare, more than three miles long, which cut right through the length of the city in a straight line, from the Gate of the Necropolis, at the western end, behind the Harbour of the Happy Return, to the Gate of Canopus, at the eastern extremity, some distance behind the Lochias Promontory. This magnificent boulevard, known as the Street of Canopus, or the Meson Pedion, was flanked on either side by colonnades, and was one hundred feet in breadth. On its north side would be seen the Museum, the Sema, the palaces, and the gardens; on the south side the Gymnasium, with its long porticoes, the Pancum, towering up against the sky, and numerous temples and public places.

Were the traveller to walk eastwards along this street he would pass through the Jewish quarter, adorned by many synagogues and national buildings, through the Gate of Canopus, built in the city walls, and so out on to open ground, where stood the Hippodromos, or Racecourse, and several public buildings. Here the sun-baked soil was sandy, the rocks were glaring white, and but little turf was to be seen. A few palms, bent southward by the sea wind, and here and there a cluster of acacias, gave shade to pedestrians, while between the road and the sea the Grove of Nemesis offered a pleasant foreground to the sandy beach and the blue expanse of the Mediterranean beyond. Near by stood the little settlement of Eleusis, which was given over to festivities and merrymaking. Here there were several restaurants and houses of entertainment, which are said to have commanded beautiful views; but so noisy was the fun supplied, and so dissolute the manners of those who frequented the place, that better-class Alexandrians were inclined to avoid it.

About three miles from Alexandria stood the suburb of Nicopolis, where numerous villas, themselves "not less than a city," says Strabo, writing a few years later, had been erected along the sea-front, and the sands in summer-time were crowded with bathers. Farther eastwards, the continuation of the Street of Canopus passed on to the town of that name and Egypt proper.

Returning within the city walls and walking westwards along the Street of Canopus, the visitor would pass once more through the Regia, and thence through the Egyptian quarter, known as Rhakotis, to the western boundary. This quarter being immediately behind the commercial harbour, was partly occupied by warehouses and ships' offices, and was always a very busy district of the town. Here there was an inner harbour, called Cibotos, or the Ark, where there were extensive docks; and from this a canal passed, under the Street of Canopus, to the lake at the back of the city. On a rocky hill behind the Rhakotis quarter stood the magnificent Serapeum, or Temple of Serapis, which was approached by a broad street running at right angles to the Street of Canopus, which it bisected at a point not far west of the Museum, being a continuation of the Heptastadium.

The temple is said to have been surpassed in grandeur by no other building in the world except the Capitol at Rome; and, standing as it did at a considerable elevation, it must have towered above the hubbub and the denser atmosphere of the streets and houses at its foot, as though to receive the purification of the untainted wind of the sea. Behind the temple, on the open rocky ground outside the city walls, stood the Stadium, and away towards the west the Necropolis was spread out, with its numerous gardens and mausoleums. Still farther westward there were numerous villas and gardens, and it may be that the wonderful flowers which at the present day grow wild upon this ground are actually the descendants of those introduced and cultivated by the Greeks of the days of Cleopatra.

Along the entire length of the back walls of the city lay the Lake of Mareotis, which cut off Alexandria from the Egyptian Delta, and across this stretch of water vast numbers of vessels brought the produce of Egypt to the capital. The lake harbour and docks were built around an inlet which penetrated some considerable distance into the heart of the city not far to the east of the Paneum, and from them a great colonnaded thoroughfare, as wide as the Street of Canopus, which it crossed at right angles, passed through the city to the Great Harbour, being terminated at the south end by the Gate of the Sun and at the north end by the Gate of the Moon.

These lake docks are said to have been richer and more important even than the maritime docks on the opposite side of the town; for over the lake the traffic of vessels coming by river and canal from all parts of Egypt was always greater than the shipping across the Mediterranean. The

shores of this inland sea were exuberantly fertile. A certain amount of papyrus grew at the edges of the lake, considerable stretches of water being covered by the densely growing reeds.

The Alexandrians were wont to use the plantations for their picnics, penetrating in small boats into the thickest part of the reeds, where they were overshadowed by the leaves, which, also, they used as dishes and drinking-vessels. Extensive vineyards and fruit-gardens flourished at the edge of the water, and there are said to have been eight islands which rose from the placid surface of the lake and were covered by luxuriant gardens.

Strabo tells us that Alexandria contained extremely beautiful public parks and grounds, and abounded with magnificent buildings of all kinds. The whole city was intersected by roads wide enough for the passage of chariots; and, as has been said, the three main streets, those leading to the Gate of Canopus, to the Scrapeum, and to the Lake Harbour, were particularly noteworthy, both for their breadth and length. Indeed, in the Fifteenth Idyll of Theocritus, one of the characters complains most bitterly of the excessive length of the Alexandrian streets. The kings of the Ptolemaic dynasty for nearly three centuries had expended vast sums in the beautification of their capital, and at the period with which we are now dealing it had become the rival of Rome in magnificence.

The inhabitants of the city were not altogether worthy of their splendid home. In modern times the people of Alexandria exhibit much the same conglomeration of nationalities as they did in ancient days; but the distinguishing line between Egyptians and Europeans is now more sharply defined than it was in ancient times, owing to the fact that the former are mostly Mahomedans and the latter Christians, no marriage being permitted between them. In Ptolemaic times only the Jews of Alexandria stood outside the circle of international marriages, which was gradually forming the people of the city into a single type; for they alone practised that conventional exclusiveness which indicated a strong religious conviction. The Greek element, always predominant in the city, was mainly Macedonian; but in the period we are now studying so many intermarriages with Egyptians had taken place that in the case of numerous families the stock was much mixed.

There must have been, of course, a certain number of aristocratic houses, descended from the Macedonian soldiers and officials who had come to Egypt with Alexander the Great and the first Ptolemy, whose blood had been kept pure, and we hear of such persons boasting of their nationality, though the ruin of their fatherland and its

subservience to Rome had left them little of which to be proud. In like manner there must have been many pure Egyptian families, no less proud of their nationality than were the Macedonians. The majority of educated people could now speak both the Greek and Egyptian tongues, and all official decrees and proclamations were published in both languages. Many Greeks assumed Egyptian names in addition to their own, and it is probable that there were at this date Egyptians who, in like manner, adopted Greek names.

Besides Greeks and Egyptians, there were numerous Italians, Cretans, Phoenicians, Cilicians, Cypriotes, Persians, Syrians, Armenians, Arabs, and persons of other nationalities, who had, to some extent, intermarried with Alexandrian families, thus producing a stock which must have been much like that to be found in the city at the present day and now termed Levantine. Some of these had come to Alexandria originally as respectable merchants and traders; others were sailors and, indeed, pirates; yet others were escaped slaves, outlaws, criminals and debtors, who were admitted on condition that they served in the army; while not a few were soldiers of fortune enrolled in the forces of Egypt.

There was a standing army of these mercenaries in Alexandria, and Polybius, writing of the days of Cleopatra's great-grandfather, Ptolemy IX., speaks of them as being oppressive and dissolute, desiring to rule rather than to obey. A further introduction of foreign blood was due to the presence of the Gabinian Army of Occupation, the members of which had settled down in Alexandria and had married Alexandrian women. These soldiers were largely drawn from Germany and Gaul, and though there had not yet been time in the days of Antony and Cleopatra for them to do more than add a horde of half-caste children to the medley, their own presence in the city contributed strikingly to the cosmopolitan character of the streets. This barbaric force, with its Roman officers, must have been in constant rivalry with the so-called Macedonian Household Troops which guarded the palace; but in Cleopatra's day the latter force had already been freely recruited from all the riff-raff of the world, and was in no way a match for the northerners.

The aristocracy of Alexandria probably consisted of the cosmopolitan officers of the mercenaries and Household Troops, the Roman officers of the Gabinian Army, the Macedonian courtiers, the Greek and Egyptian officials, and numerous families of wealthy Europeans, Syrians, Jews, and Egyptians. The professors and scholars of the Museum constituted a class of their own, much

patronised by the Court, but probably not often accepted by the aristocracy of the city for any other reason than that of their learning. The mob was mainly composed of Greeks of mixed breed, together with a large number of Egyptians of somewhat impure stock; and a more noisy, turbulent, and excitable crowd could not be found in all the world, not even in riotous Rome.

In the words of Dio Chrysostom, "the whole town lived for excitement, and when the manifestation of Apis (the sacred bull) took place, all Alexandria went fairly mad with musical entertainments and horse-races. When doing their ordinary work they were apparently sane, but the instant they entered the theatre or the racecourse they appeared as if possessed by some intoxicating drug, so that they no longer knew nor cared what they said or did. And this was the case even with women and children, so that when the show was over, and the first madness past, all the streets and byways were seething with excitement for days, like the swell after a storm."

The impudent wit of the Græco-Egyptian dandy was proverbial, and must always have constituted a cause of offence to those whose public positions laid them open to attack. No sooner did a statesman assume office, or a king come to the throne, than he was given some scurrilous nickname by the wags of the city, which stuck to him throughout the remainder of his life. All forms of ridicule appealed to them, and many are the tales told in this regard.

Thus, when Agrippa passed through the city on his way to his insecure throne, these young Alexandrians dressed up an unfortunate madman whom they found in the streets, put a paper crown upon his head and a reed in his hand, and led him through the town, hailing him as King of the Jews; and this in spite of the fact that Agrippa was the friend of Caligula, their Emperor. Against Vespasian they told with delight the story of how he had bothered one of his friends for the payment of a trifling loan of six obols, and somebody made up a song in which the fact was recorded. They ridiculed Caracalla in the same manner, laughing at him for dressing himself like Alexander the Great, although his stature was below the average; but in this case they had not reckoned with their man, whose revenge upon them was an act no less frightful than the total extermination of all the well-to-do young men of the city, they being collected together under a false pretence and butchered in cold blood.

These Alexandrians were famous for the witty and scathing songs and epigrams which they composed upon topical subjects, and against their rulers. Such ditties were carried from Egypt to

Rome, and were sung in the Italian capital. The Emperor Hadrian speaks of the Alexandrians as being spiteful—and, no doubt, a great deal of their vaunted wit had that character. The conceit of these smart young men was very noticeable, and is frequently referred to by early writers. They appear to have been much devoted to the study of their personal appearance, and, if one may judge by the habits of the upper class Egyptians and Levantines of present-day Alexandria, many of them must have been intolerable fops. The luxury of their houses was probably greater than that in Roman life at this date, and they had studied the culinary arts in an objectionably thorough manner.

Dio Chrysostom says the Alexandrians of his day thought of little else but food and horse-racing. Both Greeks and Egyptians in Alexandria had the reputation of being fickle and easily influenced by the moment's emotion. They had few traditions, no feelings of patriotism, and not much political interest. They did not make any study of themselves, nor write histories of their city; they lived for the moment, and if the Government of the hour were distasteful to them, they revolted against it with startling rapidity. The city was constantly being disturbed by rioting, and there was no great regard for human life.

The population of Alexandria is said to have been about 300,000 during the later years of the Ptolemaic dynasty, which was not much less than that of Rome before the Civil War, and twice the Roman number after that sanguinary struggle. In spite of its reputation for frivolity, it was very largely a business city, and a goodly portion of its citizens were animated by a lively commercial spirit, which quite outclassed that of the Italian capital in enterprise and bustle. This, of course, was a Greek and not an Egyptian characteristic, for the Egyptians are notoriously unenterprising and conservative in their methods, while the Greeks, to this day, are admirable business men.

Alexandria was also the chief seat of Greek learning, and regarded itself as the leading authority on matters of art—a point which must have been open to dispute. The famous "Alexandrian School," celebrated for its scientific work and its poetry, had existed for more than two hundred years, and was now in its decline, though it still attempted to continue the old Hellenic culture; but the School of Philosophy, which succeeded it in celebrity, was just beginning to come into prominence. Thus the eyes of all merchants, scientists, men of letters, scholars, and statesmen were turned to Alexandria in the days when Antony and Cleopatra lived and loved in their palace on the Lochias headland.

Appendix I

Synchronised Table of Events

WE give here an illustrative chart of the main tendencies of Ancient History, presenting these in their chronological order and in their proper positions relative to the appropriate chapters in WONDERS OF THE PAST. The gamut of the chart lies between the most remote prehistory and 600 A.D., and there are, therefore, of necessity certain chapters outside this compass, a list of these is appended at the end. The dates given in the first column are, of course, approximate.—EDITOR

B.C.	Asia and Africa	Europe and America	Chapter in this Work	Page
30,000 to 10,000		Late Palaeolithic Age in Europe	Handiwork of Prehistoric Man Master Artists of the Stone Age Prehistoric Rock Carvings of the British Isles and Brittany	1066 143 1133
4,000	Early pottery of the Elamites Predynastic kings in north and south Egypt—Agriculture introduced—Copper Age Sumerian city states (Lagash, etc.) in Mesopotamia		Susa: The Eternal City of the East The Story of Agriculture as Pictured on the Monuments	697 1140
3,000	Hittites in north Mesopotamia rise of Boghaz Keui—Wars with Babylonians South Mesopotamian kingdom of Akkad founded by Semites (Sargon of Akkad) Early foundations of Ashur		Kish, the World's Oldest City Ur of the Chaldees Sakkara The Hittites: Vestiges of a Vanished Empire	413 18 347 827
		Early Minoan civilization in Crete—Influence of Egyptian metal ware	The Arts in Babylonia and Assyria Wonder Cities of Most Ancient India	645 659
2,500	3rd Dynasty of Egyptian kings—Art of the country begins to express itself—Age of the Pyramid builders Apex of Egyptian Art in 4th Dynasty—Sphinx hewn about this time		Marvels of the Potter's Art. 1. In Mediterranean Lands The Palace of Minos at Cnossus The Exquisite Artistry of Ancient Egypt The Gods of Ancient Egypt The Pyramids of Egypt The Great Pyramid The Sphinx The Soul's Journey to Paradise The Stone Age Marvels of Malta	794 711 332 667 453 543 154 1066 1110
	End of Old Kingdom in Egypt	Transition from Neolithic to Bronze Age in north west Europe	The Wonder Stones of Carnac and Stonehenge	802
	Period of transition in Egypt	Bronze Age in Europe.	Prehistoric Rock Carvings of the British Isles and Brittany	1133
	Thebes seat of power in Egypt—Middle Kingdom Reign of Hammurabi in Babylon—His victorious conquests and his code of laws		The Pyramids of Egypt The Arts in Babylonia and Assyria	453 645
2,000	18th Dynasty—End of Middle Kingdom in Egypt Aegean civilization in Second City of Troy	Middle Minoan period of Cretan civilization	Wonder Models of Egyptian Daily Life Troy. The City Sung by Homer	261 323
1,750	Great Power of Hittites—Descent on Babylon		The Hittites: Vestiges of a Vanished Empire	827
1,500	18th Dynasty in Egypt, period of greatness and expansion—Egypt in conflict with the Hittites	Pre Hellenic civilization of Mycenae—the influence of Cretan civilization	Golden Mycenae The Story of the First Ships Thebes in its Splendour The Valley of the Tombs of the Kings The Wonder of the Obelisk The Gods of Ancient Egypt Jericho and the Biblical Story The Colonel of "Mammon" Tell-el-Amarna: City of Akhnaton and Tutankhamen	861 945 190 1170 403 667 1215 68 1122
	Akhnaton's diplomatic relations with Syria, Mitanni, Assyria, etc.—their promises of allegiance while making overtures to Hittites		The Amazing Riches of Tutankhamen Temple of the Great God Beal The Wonder of the Mummy The Palace of Minos at Cnossus The Arts in Babylonia and Assyria Tyre and Sidon: Cities of Phoenicia	41 187 549 711 645 977
	Period of Assyrian expansion Beginnings of Phoenician power in Tyre and Sidon	Late Minoan period of Cretan civilization	The Rock Temples of Abu-Simbel The Hittites: Vestiges of a Vanished Empire	176 827
1,250	19th Dynasty in Egypt—Rameses II—Iron Age—Battle of Kadesh		The Arts in Babylonia and Assyria Golden Mycenae Troy: The City Sung by Homer Mystery Gods of Early Cyprus	645 961 323 232
1,000	Period of Assyrian expansion Influx of northern tribes into Asia Minor Sixth City of Troy Aryan domination in North India	The Achaeans in Mycenae.	Onchemish of the Hittites	727
800	Hittites subject to Assyria—remnants of their culture now in Carthage Nubian independence from Egypt Civilization of Israelites in Palestine Period of greatest Assyrian splendour—Iron introduced from Hittites—Sennacherib and Ashurbanipal Medes rising under Cyaxares	Beginnings of Dorian civilization in Greece	The Gods of Ancient Greece The Temples at Jerusalem	619 863
		Native civilization of Greece supplants Mycenaean culture—Early geometric pottery—Great period of Greek colonisation	Splendours of Nineveh and Khorsabad Marvels of the Potter's Art. 1. In Mediterranean Lands	768 794

B.C.	Asia and Africa	Europe and America	Chapter in this Work	Page
700	Rise of Babylonia to zenith of its power—Great building period of Nabopolassar and Nebuchadrezzar.	Foundation of Rome.	Babylon the Great	897
	Phoenician civilization in Levant.	Steady rise of 'Greek civilization.	The Hanging Gardens of Babylon	605
600	Rise of Persians under Cyrus—Conquests in Babylonia and Egypt—Cambyses, Darius. Absorption of Semitic civilization of Babylonia by Persians.		Etruscan Cave Tomb and Chair Burials	445
	Foundations of Buddhism in the Far East. Period of great religious buildings		Tyre and Sidon : Cities of Phoenicia	977
			The Story of the First Ships	945
			Susa : The Eternal City of the East	697
			The Palaces of Persepolis	282
			The Rock of Behistun	760
			Tombs and Sculptures of Nakshi Rostam	704
			Early Shrines of Buddhism	881
			Angkor : A Marvel Hidden in the Jungle	73
			Shwe Dagon : Buddha's Greatest Shrine	1038
			The Great Shrines of Sicily	35
			The Greek Temples of Paestum	997
			The Temples at Jerusalem	842
			Cave of the Cumaean Sibyl	375
			Athens in the Days of her Glory	381
			Delphi of the Oracle	317
			Peerless Gems of Greek Sculpture	239
			The Statue of Zeus at Olympia	237
			Olympia and its Sacred Games	277
			The Parthenon : Crown of Athens	96
			The Glory of the Greek and Roman Theatre	981
			The Gods of Ancient Greece	619
			Corinth : The Wanton City	1031
			Carthage, the Cruel Queen of the Seas	635
			The Lost Cities of Ceylon	1004
400	Phoenicians in north Africa—Carthage. Ancient civilizations of South India—Foundation of Sinhalese Anuradhapura.	Syracuse—most powerful Greek city state. Rise of native Italian states—Fall of Sybaris. Spread of Hellenic culture among native states of Asia Minor. Celtic civilization in Britain.	Syracuse : Ancient Europe's Finest City	1049
			The Gods of Ancient Rome	939
			The Mausoleum of Halicarnassus	271
			The Temple of Diana at Ephesus	911
			The Strange Forts of Aran	91
			Arts and Crafts of Ancient Britain	525
			The Shrines of Isis at Philae	122
			The Alexandria of Antony and Cleopatra	1234
			The Real Academy of Plato	419
			The Splendours of Ancient Pergamum	419
300	Conquests of Alexander the Great in Europe, Asia, and Egypt—Foundation of Alexandria. Alexander's successors divide the Hellenic world.	Rhodes delivered by Ptolemy.	The Colossus of Rhodes	27
	Wars of Ptolemy Soter against Macedonians.	Punic wars : defeat of Carthage.	The Pharos of Alexandria	826
	Unrest among Central Asiatic barbarians—Conflicts with China		The Rosetta Stone : Master Key to Egypt's Lore	250
200	The great shrine builder of Ceylon.	Maya civilization in Central America.	The Great Wall of China	303
			The Maya Marvels of Central America	217
			The Great Dagobas of Ceylon	560
100	Rome interfering in Egyptian affairs. Trade routes from the East in hands of Nabataeans.	Steady rise in power of Rome.	The Lost Cities of Ceylon	1004
			The Temples of Edfu and Dendera	1099
			Petra : Rose Red City of Wonder	83
			Horse Sacrifices of Ancient Siberia	70
			Jerusalem under Herod the Great	567
			The Temples at Jerusalem	842
			The Alexandria of Antony and Cleopatra	1234
			Stone Age "Pompeii" in the Orkneys	48
	Egypt a Roman province.	Hellenistic influences in Palestine under Herod. Caesar and Augustus—Foundation of Roman Empire.		
A.D.	Roman colonies and protectorates in north Africa.	Zenith of power of the Roman Empire—Conquests all over then known world—Colonies in Asia, North Africa.	Palace of Tiberius at Capri	181
			Algeria's Amazing Tombs	169
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			The Splendours of Imperial Rome	494
			Masterpieces of Roman Sculpture	816
			Pompeii as It Was and as It Is To-day	463
			Herculaneum after 18 Centuries	353
			The Marvel of the Roman Aqueducts	787
			The Glory of the Greek and Roman Theatre	305
			The Marvel of the Roman Amphitheatre	981
			Triumphs of the Roman Bridge Builders	1191
			Nero's Golden House at Rome	1160
			Ostia : Port of Ancient Rome	874
			Rome's Strange Temple Underground	680
			Timagad : Grandest Ruin of Colonial Rome	1015
			The Wonder of the Roman Catacombs	61
			Glimpses of Roman Britain	1011
			London's Roman Remains	747
			Hadrian's Wall : Relic of Roman Britain	296
			Hadrian's Villa at Tivoli	474
			Marvels of the Potter's Art : 1. in South America	1149
			Baalbek : Splendid in its Ruin	934
			Palmyra : Queen City of the Desert	435
100	North Africa completely Romanised.	Christianity beginning to take root in Rome. Britain Romanised.		531
			Tombs and Sculptures of Nakshi Rostam	704
			Diocletian's Palace at Spalato	130
			Byzantium in the Time of Justinian	953
			A Wonder Palace on a Rock	114
			South America's Marvels in Masonry	584
			Chowrooa' Palace at Ctesiphon	609
			Byzantium in the Time of Justinian	953
200	Romanisation of Syrian towns. Roman Empire splitting in the East : trade routes in hands of Palmyrenes.	Great buildings of the emperors. Pre-Inca civilizations in South America		
300	Sassanid Kings of Persia—Sapor, Bahram.	Internal reforms in the Roman Empire. Capital of Roman Empire moved to Constantinople by Constantine.		
		Primitive civilizations in Peru and Ecuador.		
500	Building of Lion Palace of Sigiri, Ceylon.	Greatest splendour of Roman Constantinople under Justinian—Byzantine art flourishes—S. Sophia built.		
	Sassanids supreme in Mesopotamia			
600	Spread of Byzantine culture over Asia Minor.			
Subjects that do not come within the compass of this chronology, or of a nature that does not permit of definite dating :				
Modernity of the Ancient World		Page 7	Lost Treasures of Mexico and Peru	Page 410
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Mysterious Images of Easter Island		" 29	What the Dawn-Man was Like	" 490
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			Zimbabwe's Ruins of Mystery	Page 968
			Viking Ships : Survivals of 1,000 Years	" 1023
			Jain Shrines and Colossus of Mysore	" 1073
			Great Hindu Temples of India	" 1181
			The Cliff Dwellings of America	" 1204
			Remains of Unknown Races	" 1223
			Prehistoric and Roman Roads	" 1229

Appendix II

Kings and Dynasties of Ancient Egypt

NOTE.—Many variants of Egyptian names are in use. The commonest Egyptian forms of the kings' personal names are given below, with different readings, time hallowed erroneous forms or well-known Greek or Biblical versions in brackets. For some of the earliest only the throne-name or Horus name is known; sometimes both personal and Horus names appear, if each has obtained currency. All dates before 1580 B.C. are tentative.

Predynastic Kings

Before the first dynasty there were two kingdoms; a few names of kings of the North and kings of the South have been deciphered from the 'Palermo Stone' (Fifth Dynasty) and others:

Ro (South)
Tiu (North)
Thesh
Hekuu
Uaznar

1st Dynasty

Circa 3400-3300 B.C.
Southern conquerors of the North and unifiers of Egypt. Memphis founded.

The 'Scorpion,' Ip
Narmer
Aha Men Menes?
Zer Atot (Khent)
Za (Zet, Ata)
Den Semti
Enzib Merpeba
Semerkhet Hui (Shemsu)
Ka Sen

2nd Dynasty

Circa 3200-2980 B.C.
Perhaps a family of northern origin.

Hotepe-sekhemui
Raneb Kakan
Nemeter
Perenmaat
Senedi
Neferkara
Neferkara
Huzefa

3rd Dynasty

Circa 2980-2900 B.C.
New conquerors from the South. Memphis made capital.

Khasekhemui Besh (Bebi)
Zoser (Teh-er, Zoser)
Saneht
Zesert
Seser
Neferkara
Sneferu

4th Dynasty

The great pyramid builders, zenith of the 'Old Kingdom' in power and art.

Sharu (?)
Khufu (Cheops)
Razef
Khafra (Chephren)
Menkaura (Mycerinus)
Shepseskaf (and perhaps others)
(Thamphthis?)

5th Dynasty

Northern kings from Heracleopolis; prominence of Ra worship.

Usaka
Sahu-ra
Nefemrika-ra
Shepseskara
Khanet-ra
Ne-user-ra (User-en-ra)
Menkau-hetu
Dedka-ra Iesu
Uau

6th Dynasty

Central power of the Pharaoh steadily waning.

Teti
Userka-ra Ati
Pepi I
Necton-ra I
Pepi II
Meren-ra II
Neterka-ra
Menka-ra

7th, 8th, 9th, 10th Dynasties

Circa 2431-2160 B.C.
Here follows the first period of anarchy, invasion of Asiatas. Two dynasties ruling at Heracleopolis appear to be the most important but how far they were contemporaneous with other princes ruling elsewhere whose names are recorded is uncertain. The country was split up and when centralized power (the 'Middle Kingdom') reappears with the eleventh dynasty, Thebes in the south is its seat.

11th Dynasty

From Thebes. Intef I was the first to assume the royal title; Mentuhotep III to conquer all Egypt.

Intef I
Intef II
Mentuhotep I
Mentuhotep II
Mentuhotep III Nubha-
petra
Mentuhotep IV

12th Dynasty

Dates are given from the death of the father, although the son in this dynasty was usually admitted as co-regent.

Amenemhat I
Sensuret (Usertsen, Sesotris) I
Amenemhat II
Sensuret II
Sensuret III
Amenemhat III
Amenemhat IV
Sesotris (Queen)

13th, 14th, 15th, 16th Dynasties

Circa 1788-1580 B.C.
Here follows the second anarchical period, with Thebes losing power and invaders coming from the east. Finally two dynasties of foreign Hyksos or 'Shepherd' kings rule practically all Egypt.

17th Dynasty

Contemporary with the last of the Hyksos, a line of Theban rulers were independent. The final struggle broke out under Sekenenra III.

Sekenenra I
Sekenenra II
Sekenenra III
Uaskeperia Kamose
Senakhtenra

18th Dynasty

Hyksos expelled by Aahmes, who founds the 'New Kingdom' or 'Empire.' Thebes the seat of power; climax of Egyptian greatness. Amen- worship pre-eminent.

Aahmes (Ahmose, Amasis)
Amenhotep (Amenophis) I
Thothmes (Thutmose) I

19th Dynasty

A fresh period of power after the temporary confusion occasioned by Akhnaton and his heretics.

Horemheb (Harmhab)
Ramesses I
Seti (Sethos) I
Ramesses II
Merneptah
Amenmes
Sap-tah
Seti II

20th Dynasty

After a short period of anarchy, during which Arsi, a Syrian usurper, reigned for some years, order was restored by Setnekht, of the family of Ramesses II. Loss of Egyptian Empire in Syria.

Setnekht
Ramesses III
Ramesses IV
Ramesses V
Ramesses VI
Ramesses VII
Ramesses VIII
Ramesses IX
Ramesses X
Ramesses XI

21st Dynasty

The last few kings of the Twentieth Dynasty were mere nonentities in the hands of the priests of Amen, and on the death of Ramesses XI, Her-Heru, the high priest, seized the power, founding the line of Priest Kings. In the meantime, however, a prince of Tanis in the Delta assumed independent royalty—Nebu-ba-neb-tet, the Smendes of Manetho; and during this period sometimes a Tanite king practically ruled the whole land, generally Thebes maintained a precarious independence, and on one occasion at least a high priest obtained the Tanite throne by marriage.

22nd Dynasty

The old order is definitely at an end; the founder of this dynasty was a descendant of Libyan mercenaries who had made themselves powerful in Heracleopolis. Bubastis was chosen as the capital, Egypt united and some measure of foreign power regained.

Sh-shank (Shishak) I
Osorkon I
Takeloth (Taketlot) I
Osorkon II (co-regent, 880)
Sh-shank II
Inpu
Sh-shank III
Pami
Sh-shank IV
Osorkon IV

23rd Dynasty

A younger branch of the Libyan family had been installed in the high priesthood of Amen at Thebes and in

the reign of Osorkon II declared its independence, paying a tribute to the Twentieth Dynasty. But by the end of these two contemporaneous dynasties almost every town had a petty chief.

Hatnes
Pudubast (Peta-bast)
Lakelth II
Osorkon III
Lakelth III (co-regent 757)
Kudamen (co-regent 750)

24th Dynasty

From 726 the real power in the north belonged to Inehkht, prince of Sais, whereas in about 715 Thebes had passed to a Nubian king, Kashta, and his son Piankhi, who in 722 attacked and defeated the Saites. Owing to a defeat of the Nubian arms in Palestine by the Assyrians, Inehkht resumed sway.

Inehkht
Ushere Bokenranef
(Bocchoris)

25th Dynasty

Shabaka, who had been associated with Piankhi from about 715, now descended upon Egypt and recovered the Nubian ascendancy, founding the 'Ethiopian' Dynasty.

Shabaka
Shabataka
Taharka (Tirhakah)
Tanutamun

26th Dynasty

In the reign of Taharka Egypt was subdued by Esarhaddon and Ashurbanipal, successive kings of Assyria. Taharka and his successor made sporadic re descents upon Egypt from Nubia or Thebes but after some revolts and disturbances Ashurbanipal established Psammetichus at Sais. During this dynasty there was a brilliant revival of art and a last flash of military energy.

Psammetek (Psammetichus) I
Necho
Psammetek II
Ushiri (Hophra, Apries)
Aahmes (Amasis) II
Psammetek III

27th Dynasty

Egypt conquered by Cambyses and ruled by Persian kings who assumed the old titles (see list of Persian kings in the next page).

28th, 29th, 30th, 31st Dynasties

Evanescent princes who succeeded in regaining some independence from time to time, Nectanebos, of the Thirtieth Dynasty, was Egypt's last native king. Finally the Persians regained complete control of the country in about 340 B.C., Darius III counting as the Thirty-first Dynasty.

The Ptolemies

In 332 B.C. Alexander the Great wrested Egypt from Darius III; and his successor, Philip Arrhidaeus, Alexander II and the Ptolemies, among whom was Cleopatra (47-30 B.C.), ruled from Alexandria for some 300 years. Finally, in 30 B.C. Egypt became a Roman province.

Appendix III

Kings and Dynasties of Mesopotamia

Traditional

Dynasties of kings, grading unsensibly from mythical to actual, recorded at Kish (Semitic) and Erech, Ur Awan, Kishim, and Adab (Sumerian). Several kings are proved to be historical personages by discoveries of statues, ware-heads, etc. The overlords shift from town to town and dynasties are often contemporary. Kish usually pre-dominant.

Dynasties at

Uruk c. 3100-2900
Kish c. 2900-2800
Kish (3rd) c. 2800-2700

All three probably Semitic; last two probably contemporaneous.

Lagash

Contemporary with the above, the Sumerian patriarchy (priest-prince) of Lagash were often independent enough to style themselves kings, from them come our first contemporary records.

Lukhegal	..	..	c. 3000
Ur-Ninur	..	..	c. 2900
Akur-gal	..	..	c. 2800
Eannatum	..	..	c. 2750
Lugalzagesi	..	..	c. 2700
Lugalzagesi	..	..	c. 2650
Lugalzagesi	..	..	c. 2600
Lugalzagesi	..	..	c. 2550
Lugalzagesi	..	..	c. 2500
Lugalzagesi	..	..	c. 2450
Lugalzagesi	..	..	c. 2400
Lugalzagesi	..	..	c. 2350
Lugalzagesi	..	..	c. 2300
Lugalzagesi	..	..	c. 2250
Lugalzagesi	..	..	c. 2200
Lugalzagesi	..	..	c. 2150
Lugalzagesi	..	..	c. 2100
Lugalzagesi	..	..	c. 2050
Lugalzagesi	..	..	c. 2000
Lugalzagesi	..	..	c. 1950
Lugalzagesi	..	..	c. 1900
Lugalzagesi	..	..	c. 1850
Lugalzagesi	..	..	c. 1800
Lugalzagesi	..	..	c. 1750
Lugalzagesi	..	..	c. 1700
Lugalzagesi	..	..	c. 1650
Lugalzagesi	..	..	c. 1600
Lugalzagesi	..	..	c. 1550
Lugalzagesi	..	..	c. 1500
Lugalzagesi	..	..	c. 1450
Lugalzagesi	..	..	c. 1400
Lugalzagesi	..	..	c. 1350
Lugalzagesi	..	..	c. 1300
Lugalzagesi	..	..	c. 1250
Lugalzagesi	..	..	c. 1200
Lugalzagesi	..	..	c. 1150
Lugalzagesi	..	..	c. 1100
Lugalzagesi	..	..	c. 1050
Lugalzagesi	..	..	c. 1000
Lugalzagesi	..	..	c. 950
Lugalzagesi	..	..	c. 900
Lugalzagesi	..	..	c. 850
Lugalzagesi	..	..	c. 800
Lugalzagesi	..	..	c. 750
Lugalzagesi	..	..	c. 700
Lugalzagesi	..	..	c. 650
Lugalzagesi	..	..	c. 600
Lugalzagesi	..	..	c. 550
Lugalzagesi	..	..	c. 500
Lugalzagesi	..	..	c. 450
Lugalzagesi	..	..	c. 400
Lugalzagesi	..	..	c. 350
Lugalzagesi	..	..	c. 300
Lugalzagesi	..	..	c. 250
Lugalzagesi	..	..	c. 200
Lugalzagesi	..	..	c. 150
Lugalzagesi	..	..	c. 100
Lugalzagesi	..	..	c. 50
Lugalzagesi	..	..	c. 0

Erech-3rd

A prince of Umma now crushes Lagash and Kish makes Erech his capital and founds an empire over all Mesopotamia as far as the Tigris.

Lugalzagesi 2700-2650 B.C.

Agade

Sargon the Great deposes Lugalzagesi and founds new capital at Agade. Ur-Bau (c. 2620) prince of Lagash.

Sargon the Great	..	..	c. 2300
Ismaia	..	..	c. 2250
Manishtusu	..	..	c. 2200
Naram-Sin	..	..	c. 2150
Shar-kisharri	..	..	c. 2100
Six more kings	..	..	c. 2050

Erech-4th

The last kings of Agade were Akkadian, and a dynasty of five kings now rules from Erech.

Gutium

Anarchy rule of Gutians invaded, during latter part of which Gutians and Ur-Ningirsu are patrons of Lagash.

Erech-5th

A prince of Erech crushes last of the Gutians.

Utukhegal c. 2450-2400 B.C.

Ur-3rd

Last great Sumerian revival, and empire.

Ur-Nammu (Ur-Nammu)	..	..	c. 2400
Dumuzi (Dumuzi)	..	..	c. 2350
Bur-Sin	..	..	c. 2300
Gungunum	..	..	c. 2250
Ibbi-Sin	..	..	c. 2200

Isin and Larsa

In 2350 B.C. Ibbi-Sin a Semite from Akkad, made himself master of Isin and in 2250, in alliance with Elam, crushed the Ur dynasty. At about

the same time a rival Semitic dynasty arose in Larsa. Principal kings.

Ibbi-Sin	..	..	c. 2350
Isin-Dagan	..	..	c. 2300
Isin-Dagan	..	..	c. 2250
Lugalzagesi	..	..	c. 2200
Gungunum (Larsa)	..	..	c. 2150
Ur-Ninurta (Sumerian usurper, Isin)	..	..	c. 2100
Bur-Sin	..	..	c. 2050
Sumu-Isin (Larsa)	..	..	c. 2000
Sin-Idinam	..	..	c. 1950
Warad-Sin (Elamite conqueror, Larsa)	..	..	c. 1900
Rim-Sin	..	..	c. 1850

1st Babylonian Dynasty

In 2225 Rim-Sin, the Elamite king, of Larsa captured Isin, but in the meantime a Semitic Dynasty had arisen in Babylon and in 2090 its 17th king, Hammurabi, crushed Rim-Sin and ruled the whole country.

Sumu-abum	..	..	c. 2225
Sumer-La-bu	..	..	c. 2200
Sumer-La-bu	..	..	c. 2175
Abil-Sin	..	..	c. 2150
Sin-muballit	..	..	c. 2125
Hammurabi	..	..	c. 2080
Sin-muballit	..	..	c. 2050
Abil-Sin	..	..	c. 2025
Sin-muballit	..	..	c. 2000
Sin-muballit	..	..	c. 1975
Sin-muballit	..	..	c. 1950
Sin-muballit	..	..	c. 1925

Kings of the Sea Country

In the reign of Samsu-iluna, Ilumma founded the dynasty of the Sea Country round the mouths of the Tigris and gradually absorbed large portions of the Babylonian domains. The Babylonian dynasty was brought to an end by the Hittite raid in 1600, after which follows an obscure period filled only by names of Sea Country kings.

Kassite Dynasty

Kassite barbarians invaded the country and founded a dynasty at Babylon under Gurnash in 1746. It is now the growing power of Assyria in the north. Period of diplomatic relations with Egypt.

Assyrian Kings

Kings of Assyria can be traced back perhaps to 2400 B.C., the two earliest, Ishpia and Kiska, being possibly Mitannians. Hitherto tributary to the empires of Ur or Babylon, but at this period they divide Mesopotamia with the Kassites. The first to make real headway against the latter was Shammaneser.

Adad-nirari I	..	..	c. 1305
Shalmaneser I	..	..	c. 1275
Tukulti-Ninurta I	..	..	c. 1235
Ashur-nadin-apli	..	..	c. 1215
Ashur-nirari III	..	..	c. 1205
Iskhudur-nur	..	..	c. 1195
Ninurta-apli-Ekur I	..	..	c. 1185
Assur-dan I	..	..	c. 1175
Ninurta-tukulti-Ashur	..	..	c. 1165
Mutlak-Nusku	..	..	c. 1155
Ashur-resh-ishi	..	..	c. 1145
Tiglath-pileser I	..	..	c. 1135

Isin Dynasty of Babylon

Under Ashur-dan the last of the Kassites had been suppressed, but a new dynasty from Isin arose in Babylon. Only the first few kings are important.

Marduk-shapik-zeri	..	..	c. 1165
Ninurta-nadin-shum	..	..	c. 1155

Nebuchadnezzar I	..	..	c. 1145
Enlil-nadin-apli	..	..	c. 1135
Marduk-nadin-akhe	..	..	c. 1125

A period of confusion follows; on the death of Tiglath-pileser Assyria reverts under pressure from Aramaean tribes, Babylonia from Chaldeans. A second line of Sea Country kings arises, and to end of Assyrian dominance Babylonia is ruled by a succession of powerless dynasties, Elamite or Chaldean usurpers, Assyrian kings or Assyrian nominees.

Assyrian Empire

Under Adad-nirari II Assyrian power begins to revive.

Adad-nirari II	..	..	c. 911
Tukulti-Ninurta II	..	..	c. 889
Ashur-nasir-pal II	..	..	c. 884
Shalmaneser III	..	..	c. 859
Shamshi-Adad V	..	..	c. 824
Adad-nirari III	..	..	c. 811
Shalmaneser IV	..	..	c. 782
Ashur-dan III	..	..	c. 773
Ashur-nirari V	..	..	c. 745
Tiglath-pileser III	..	..	c. 745
Shalmaneser V	..	..	c. 722
Sargon II	..	..	c. 722
Sennacherib	..	..	c. 705
Assurbanipal	..	..	c. 681
Ashur-etil-ilani	..	..	c. 669
Sin-shum-lishir	..	..	c. 621
Sin-shar-iskun	..	..	c. 612

Chaldean Empire

Nabopolassar the Chaldean made himself master of Babylon in 625, allied himself with Cyaxares the Mede, and in 612 participated in the sack of Nineveh, thereafter dividing the Assyrian Empire with Cyaxares.

Nabopolassar	..	..	c. 625
Nebuchadnezzar II	..	..	c. 605
Amel-Marduk (Evil Merodach)	..	..	c. 562
Nergal-shar-usur (Nergal-gissar)	..	..	c. 560
Labashi-Marduk	..	..	c. 556
Nabu-naid (Nabonidus)	..	..	c. 556

Persian Empire

Astyages, the Median king, had wedded his daughter to Cambyses I, the Persian, then ruling in Elam. Their son, Cyrus II, defeated Astyages in 550, took Babylon in 539, and inaugurated the Persian Empire.

Cyrus II, the Great	..	..	c. 558
Cambyses II	..	..	c. 529
Darius I	..	..	c. 522
Xerxes I	..	..	c. 486
Artaxerxes I	..	..	c. 465
Xerxes II	..	..	c. 455
Darius II, Nothos	..	..	c. 424
Artaxerxes II	..	..	c. 404
Artaxerxes III, Ochus	..	..	c. 359
Araks	..	..	c. 330
Darius III	..	..	c. 330

Seleucidae and Parthians

Alexander conquered the Persian Empire in 331, on his death it went to pieces, Seleucus, governor of Babylonia from 310, emerging as king of the eastern portions of his domains. This line lasted to 65 B.C., when its lands were annexed by Rome. But by that time most of Mesopotamia east of the Euphrates had fallen to the Parthians (Mithridates I, 170-138 B.C.), who maintained their line with varying fortunes in opposition to Rome until the rise of the Sassanians under Artaxerxes I (Artaxerxes), a native Persian, in A.D. 224.

GENERAL INDEX

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